

ESKİŞEHİR DEVLET MÜHENDİSLİK VE MİMARLIK AKADEMİSİ
LİSANSÜSTÜ FAKÜLTESİ

**Elastik Zemine Oturan Sürekli
Yüzeysel Temellerin
Hesabı**

LİSANSÜSTÜ TEZİ

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Elastik zemine oturan doğru eksenli sürekli kirişlerin çözümünde güç problem- den birisi temel altındaki gerilmelerin hesaplanmasıdır. Yaklaşık hesap metodların- da kiriş rijit kabul edilmektedir. Bu metotta zemindeki gerilmelerin hesabı da, her kolondan gelen yükün kolon etki boyuna bölünerek elde edilen zemin gerilme değerle- rinin ortalamaları alınarak yapılmaktadır. Yani lineer bir gerilme yayılımı kabul edilmektedir.

Böyle bir hesap tarzında kirişin oturduğu zeminin özellikleri dikkate alınmaz. Halbuki gerilmelerin yayılımı büyük miktarda kirişin oturduğu zeminin özellikleri- ne bağlıdır. Kaldı ki yeni TS 500*, sürekli temellerin elastik zemine oturan sonlu kiriş olarak çözülmesini öngörmektedir. Bu çalışma elastik zemine oturan doğru ek- senli kirişlerin çözüm metodlarını karşılaştırmayı ve pratiğe yönelik tablolar ha- zırlamayı amaçlar.

Bilindiği gibi bu tür kirişlerin çözümü yatak katsayısı kavramına dayanır. Bu nedenle çalışmanın başlangıcında yatak katsayısının anlamı ve hesaplanması yöntem- leri üzerinde durulmuştur. Daha sonra problemin differansiyel denkleminin genel çö- zümü verilmiş ve çeşitli araştırmacıların özel çözümleri anlatılmıştır. En son bö- lümde de gerçek çözüm anlatılmıştır. Çözüm metodlarının karşılaştırılması BASIC programlama dilinde yazılan bilgisayar programları ile yapılmıştır.

Uygulamada bilgisayardan faydalanma imkanı olmayan mühendisler için tablolar yardımı ile çözüme gidilmesi zorunlu olmaktadır. Bu nedenle problemin kesin çözümü için hazırlanan bilgisayar programlarının yanısıra literatürdeki tesir çizgisi tab- loları daha da genişletilerek eklenmiştir.

Bu çalışmayı yöneten hocam Doç. Ruhi AYDIN'a ve kıymetli yardımlarını esirgeme- yen Dr. Ahmet TOPÇU'ya teşekkürlerimi sunarım.

*TS 500: Betonarme yapıların hesap ve yapım kuralları: Aralık 81.

B Ö L Ü M : I

I-1- YATAK KATSAYISI TEORİLERİ:

Elastik zemin üzerine oturan kirişin, temas yüzeyi üzerinde verilen herhangi bir noktadaki $\bar{P}(x)$ (t/m^2) gerilmesi ile $y(x)$ (m) çökmesi arasındaki sabit oran yatak katsayısı olarak tanımlanır(1).

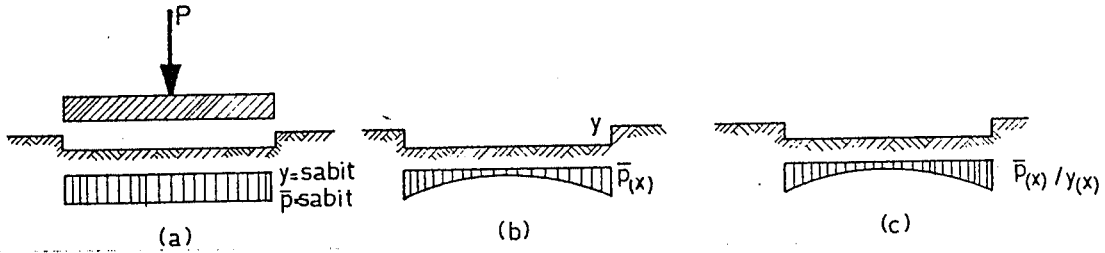
$$C = \frac{\bar{P}(x)}{y(x)} \quad (t/m^3) \dots (1)$$

$\bar{P}(x)$: Elastik zeminin herhangi bir noktasındaki gerilme (t/m^2)

$y(x)$: Aynı noktanın çökmesi (m)

C = Yatak katsayısı. (t/m^3)

Yatak katsayısı teorileri temel zeminin Hooke Kanununa uyduğu ve merkezi yük-
le yüklenmiş rijit bir plağın her noktasında yatak katsayısının aynı olduğu kabulü
üzerine kurulmuştur. Buna rağmen yatak özellikleri aynı olsa bile C sayısı değişik
noktalarda farklıdır. Çünkü aynı yük altındaki çökme; kuvvet altında büyük kenar-
larda küçüktür. Eğer $C = \bar{P}(x)/y(x)$ = sabit kabulü geçerli olsaydı o zaman rijit bir
plağın altındaki gerileme her noktada aynı olurdu (Şekil:1.a).



Şekil: 1. Yatak Katsayısının Anlamı.

Halbuki Boussinesq teorisine göre gerilmeler ortada küçük kenarlarda büyük-
tür (Şekil:1.b). Bu fark rijitliği fazla olmayan plaklarda oldukça büyüktür.
Bundan dolayı yatak katsayısının sabit değil değişken olması gerektiği anlaşılır(Şe-
kil:1.c).

Bazı araştırmacılar yatak katsayısını zeminin sıkışma rijitliği, temel geniş-
liği ve derinliğine bağlı olarak ifade etmişlerdir. Böylece yatak katsayısının de-
ğişkenlik özelliğini kaldırmışlardır.

I-2 YATAK KATSAYISININ HESAPLANMASI:

I-2-1 KÖGLER'e göre kare bir temelde (2).

$$C = M \cdot \frac{B+2t}{B \cdot t} \text{ dir.....(2)}$$

Burada:

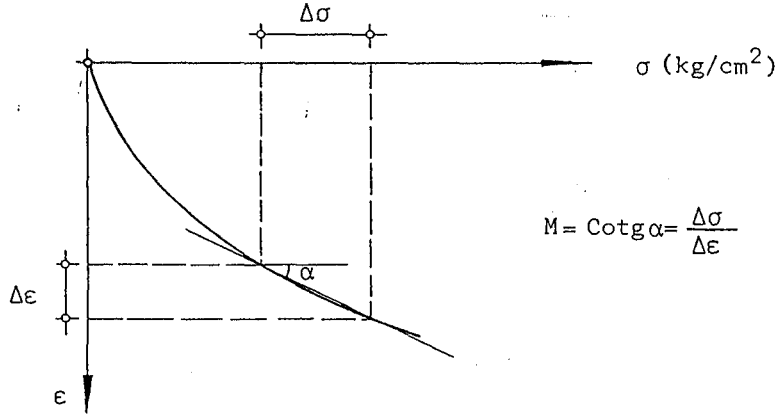
B : Kenar uzunluğu (m)

t : Temel çukuru derinliği (m)

M : Zeminin sıkışma rijitliği. (t/m²)

(Tablo 1'den alınabilir.)

Zeminin sıkışma rijitliği: Zeminden alınan numunenin serbest basınç deneyine tabi tutulması sonunda, elde edilen eğrinin iki noktasını birleştiren, doğrunun eğiminin cotg değeri olarak tanımlanır (Şekil:2).



Şekil:2. Zemin Şıkışma Rijitliğinin Anlamı.

TABLO:1. Çeşitli Zemin Cinslerine Göre Zemin Sıkışma Rijitliğini Veren Tablo (3).

ZEMİN	M[kg/cm ²]
İri kum	1000 ~ 2000
Sıkı kum	500 ~ 800
Gevşek kum	100 ~ 200
Marn ve sert kil	200 ~ 300
Orta sert kil	80 ~ 150
Sert plastik kil	40 ~ 80
Yumuşak kil	15 ~ 40
Yumusak akıcı kil	5 ~ 30
Turba	1 ~ 5

Aynı arařtırmacı kiriř řeklindeki sũrekli temeller iin yatak katsayısını:

$$C = \frac{M}{B \cdot \ln \frac{B+2t}{B}} \quad (t/m^3) \quad \dots\dots\dots(3) \quad \text{olarak verilmiřtir.}$$

B : Temel geniřliđi (m)

t : Temel ukuru derinliđi (m)

M : Zemin sıkıřtırma rijitliđi (t/m^2)

I-2-2 JACKY'e gũre (2)

B : Temel geniřliđi (m)

t : Temel ukuru derinliđi (m)

M : Zemin sıkıřtırma rijitliđi (t/m^2)

$$C = \frac{2}{3} \cdot \frac{M}{B} \quad (t/m^3) \quad \dots\dots\dots(4)$$

Son arařtırmalar yatak katsayısının kumlu zeminlerde; temel geniřliđin dũrt katı derinlikte olduka arttıđını gũstermiřtir.

I-2-3 TERZAGHI'ye gũre (1)

Terzaghi yatak katsayısını temel geniřliđine bađlı olarak killi ve kumlu zeminler iin ayrı ayrı vermiřtir.

I-2-3-a. Kumlu zeminler iin:

$$C = C_o \left(\frac{B+30}{2B} \right)^2 \quad (kg/cm^3) \quad \dots\dots\dots (5) \quad \text{ũnermiřtir.}$$

B : Temel geniřliđi (cm)

C_o: 30cm eninde řerit veya 30x30cm boyutlarında bir plađın yũkleme deneyi sonunda bulunan yatak katsayısı (kg/cm^3). (Tablo:2'den alınabilir.)

TABLO: 2.Kumlu Zeminler iin C_o Katsayıları (kg/cm^3)

	Gevřek kum	Sıkı kum	ok sıkı kum
$\gamma_o (t/m^3)$	1.3	1.6	1.9
Yař veya ıslak kum C _o =	1.3	4	16
Yeraltı su seviyesi altında kum C _o =	1.8	2.5	10

I-2-3-b. Killi Zeminler İçin:

Sonsuz uzunluktaki kirişte: (B.L ⇒ ∞)

B : Temel genişliği (cm)

L : Elastik kirişin fiktif boyu (m)

$$C = Co \cdot \frac{20}{B} \text{ (kg/cm}^3\text{)} \dots \dots \dots (6)$$

$$L = \sqrt[4]{\frac{4 \cdot E \cdot I}{C \cdot B}}$$

E : Kirişin elastisite modülü (t/m²)

I : Kirişin atalet momenti (m⁴)

Co: (kg/cm³)

Eğer B=L ise :

$$C = Co \cdot \frac{30}{B} \text{ (kg/cm}^3\text{) önermiştir.}$$

TABLO: 3. Killi Zeminler İçin Co Katsayılarını Veren Tablo:

	Sıkı	Çok sıkı	Sert
Serbest basınç dayanımı	1-2	2-4.5	4.5
Co=(kg/cm ³)	2.5	5	10

I-2-4 Aynı konuda SCHLEICHER'in yaptığı araştırmalara göre yatak katsayısı ortalama bir değer olarak aşağıdaki gibi hesaplanabilir (4).

X : Değme yüzeyi boyutlarına bağlı katsayı (Tablo 4'den alınabilir)

$$Cort = \frac{X \cdot K}{F} \text{ (kg/cm}^3\text{)} \dots \dots \dots (7)$$

F : Değme yüzeyi (cm²)

E : Zemin elastisite modülü (kg/cm³) (Tablo 5'den alınabilir)

$$K = \frac{E}{1 - \mu^2} \text{ (kg/cm}^3\text{)}$$

μ : Zemine ait poisson oranı. Ortalama bir değer olarak 0,333 alınabilir.

TABLO: 4. X Katsayılarını Veren Tablo:

α	2	3	5	10	100
X	1.09	1.13	1.22	1.41	2.71

$$\alpha = \frac{1}{B}$$

l : Kiriş boyu (m)

B : Kiriş genişliği (m)

TABLO: 5.Zeminlerin Elastisite Modüllerini Veren Tablo. (5,6).

ZEMİN CİNSİ	E (kg/cm ²)
MICİR: Keskin kenarlı Orta sıkı Gevşek	3000 - 1500
İRİ KUM: Orta daneli ve kaba Orta sıkı Gevşek	2000 - 1000
KİSLİ KUM Orta sıkı Gevşek	2000 - 1000
KUM: Köşeli Orta sıkı Gevşek	800 - 2000 400 - 800
KUM: Yuvarlak daneli Orta sıkı Gevşek	200 - 500 100 - 200
KİL: Sert Orta sıkı Sıkı Yumuşak	80 - 500 60 - 200 10 - 60 15 - 30

I-3 ÇEŞİTLİ ARAŞTIRMACILARIN VERDİKLERİ FORMÜLLERİN KARŞILAŞTIRILMASI

I-3-1 Killi Zeminler için: Formüller bir örnek üzerinde karşılaştırılırsa;

ÖRNEK: Sert kil üzerinde, boyutları $1,5 \times 10 \text{ m}^2$ ve temel derinliği 3 m olan Sürekli kirişin yatak katsayısının hesaplanması:

KÖGLER'e göre: (3)

$$C = \frac{M}{B \cdot \ln \frac{B+2t}{B}}$$

Tablo 3'den sert kil için, $M = 250 \text{ kg/cm}^2$ alındı.

$$C = \frac{250 \cdot 10}{1,5 \cdot \ln \frac{1,5+2 \times 3}{1,5}} = 1035,56 \text{ t/m}^3$$

JACKY'e göre: (4)

$$C = \frac{2}{3} \cdot \frac{M}{B} = \frac{2}{3} \cdot \frac{250 \cdot 10}{1,5} = 1111,11 \text{ t/m}^3$$

TERZAGHI'ye göre: (6)

$$C = Co \cdot \frac{20}{B}$$

Co : Tablo 3'den sert kil için $Co = 10 \text{ kg/cm}^3$ alınarak:

$$C = 10 \cdot \frac{20}{150} = 1,333 \text{ kg/cm}^3 = 1333,33 \text{ t/m}^3$$

SCHLEICHER'e göre: (7)

Tablo 5'den $E = 250 \text{ kg/cm}^2$ ve tablo 4'den $10/1,5 = 6,67$ için $\chi = 1,30$ alınarak;

$$K = \frac{250 \cdot 10}{1 - (0,33)^2} = 2811,80 \text{ kg/cm}^2$$

$$C_{\text{ort}} = \frac{1,30 \times 281,18}{150 \times 1000} = 0,9438 \text{ kg/cm}^3 = 943,80 \text{ t/m}^3$$

I-3-2 Kumlu Zeminler için: I.3.1'deki kirişin bu kez sıkı kum zemin üzerinde oturduğunu kabul edelim;

KÖGLER'e göre: (3)

$$C = \frac{M}{B \cdot \ln \frac{B+2t}{B}}$$

Tablo 1'den sıkı kum için $M = 600 \text{ t/m}^2$ alınır.

$$C = \frac{600 \cdot 10}{1,5 \ln \frac{1,5+2 \times 3}{1,5}} = 2485,30 \text{ t/m}^3$$

JACKY'e göre: (4)

$$C = \frac{2}{3} \cdot \frac{M}{B} = \frac{2}{3} \cdot \frac{6000}{1,5} = 2666,7 \text{ t/m}^3$$

TERZAGHI'ye göre: (5)

$$C = C_0 \left(\frac{B+30}{2B} \right)^2$$

Tablo 2'den sıkı kum için $C_0 = 2,5 \text{ kg/m}^3$
alınarak:

$$C = 2,5 \left(\frac{150+30}{2 \times 150} \right)^2 = 0,9 \text{ kg/cm}^3 = 900 \text{ t/m}^3$$

SCHLEICHER'e göre: (7)

$$\alpha = 10/1,5 = 6,67;$$

Tablo 4'den $\alpha=10/1,5$ için $\chi = 1,30$ ve Tablo 5'
den $E = 500 \text{ kg/cm}^2$

$$K = \frac{5000 \cdot}{1 - (0,33)^2} = 5611,04 \text{ t/m}^2$$

$$C_{ort} = \frac{1,30 \times 5611,04}{15} = 1883,39 \text{ t/m}^3$$

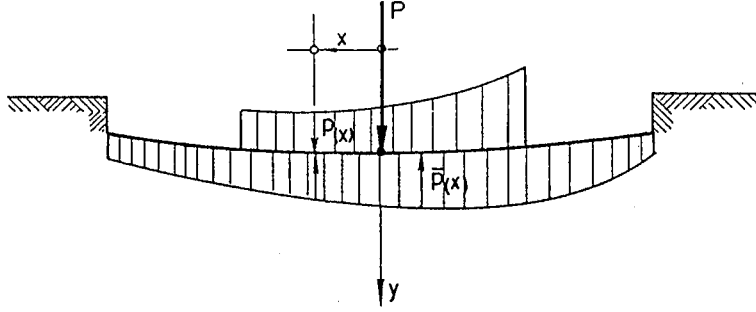
I-3-3 YATAK KATSAYISI HAKKINDA DÜŞÜNCELER

I.3.1 ve I.3.2 bölümlerinden de açıkça anlaşılacağı gibi çeşitli araştırmacıların önerdikleri formüllerin verdikleri sonuçlar birbirine oldukça yakındır. Kaldı ki sonuçlar farklı olsa bile denklemlere yatak katsayısının dördüncü dereceden kökü girmektedir ($L = \sqrt[4]{\frac{4EI}{C.B}}$) bu da statik değerlerde (çökme, moment, kesme kuvveti) önemli bir değişiklik yapmaz. (Bakınız bölüm V).

B Ö L Ü M : II

II-1 SÜREKLİ KİRİŞLERİN YATAK KATSAYISINA GÖRE ÇÖZÜMÜ:

Elastik zemin üzerine oturan, üzerinde P tekil yükü ve $P_{(x)}$ yayılı yükü olan bir kiriş alınarak differansiyel denklemin genel çözümü araştırılırsa:



Şekil: 3.Elastik Zemine Oturan Sonlu Uzunlukta Kiriş.

Burada:

- P :Tekil yük (ton)
 $P_{(x)}$:Kiriş üzerinde yazılı yük (t/m)
 $\bar{P}_{(x)}$:Zemin yüzeyindeki gerilmeler (t/m)
X :Kesitin P kuvvetinden uzaklığı (m) dir..

Çökme fonksiyonunu $y_{(x)}$ olarak alırsak:

$$y'_{(x)} = \theta_{(x)} \quad \text{Dönmeler (radyan)}$$

$$-E.I y''_{(x)} = M_{(x)} \quad \text{Eğilme momenti (tm) (8)}$$

$$-E.I y'''_{(x)} = Q_{(x)} \quad \text{kesme kuvveti (ton) (9)}$$

$$-E.I y^{IV}_{(x)} = P_{(x)} \quad \text{yayılı yük olur. (10)}$$

Burada:

I : Kirişin atalet momenti (m^4)
E : Kirişin elastisite modülü (t/m^2) dir.

II-1-1 Differansiyel Denklemin Elde Edilmesi:

(9) Denklemini göz önüne alınarak:

$$-\frac{d^2 M(x)}{dx^2} = P(x) - \bar{P}(x) \cdot B \dots \dots \dots (11) \quad B: \text{Kiriş genişliği.}$$

Zemin elastik olduğuna göre zemindeki gerilmeler çökmelerle orantılıdır.*Yani, C yatak katsayısı olduğuna göre:

$$\bar{P}(x) = C \cdot y(x) \quad \text{olur.} \dots \dots \dots (12)$$

Bu bağıntı (11) de kullanılarak:

$$-\frac{d^2 M(x)}{dx^2} = (P(x) - C \cdot y(x)) \cdot B$$

$$-\frac{d^2 M(x)}{dx^2} = P(x) \cdot B - C \cdot B \cdot y(x)$$

$$-\frac{d^2 M(x)}{dx^2} + C \cdot B \cdot y(x) = P(x) \cdot B \dots \dots \dots (13) \quad \text{elde edilir.}$$

Ayrıca $M(x)$ de yerine yazılırsa:

$$E \cdot I \frac{d^2(y''(x))}{dx^2} + C \cdot B \cdot y(x) = P(x) \cdot B$$

$$E \cdot I \frac{d^4 y}{dx^4} + C \cdot B \cdot y(x) = P(x) \cdot B$$

* WINKLER HİPOTEZİ: Bu bağıntı ilk defa Winkler tarafından 1867 yılında ortaya atılmış ve Demiryolu traveslerinin hesabında kullanılmıştır.

$$\frac{E.I}{C.B} \cdot \frac{d^4 y}{dx^4} + y(x) = \frac{B}{C} \cdot P(x) \dots\dots\dots (14) \quad \text{elde edilir.}$$

Diğer yandan;

$$-\frac{d^2 M(x)}{dx^2} = (P(x) - \bar{P}(x)) \cdot B$$

$$\frac{d^4 M(x)}{dx^4} = -B \cdot \frac{d^2}{dx^2} (P(x) - C \cdot y(x))$$

$$\frac{d^4 M(x)}{dx^4} + \frac{C.B}{E.I} M(x) = -B \frac{d^2 P(x)}{dx^2} \dots\dots\dots (15)$$

Burada; $\frac{C.B}{E.I} = a$ olarak alınırsa:

$$\frac{d^4 M(x)}{dx^4} + a \cdot M(x) = -B \cdot \frac{d^2 P(x)}{dx^2}$$

Baradan da;

$$y^{1v} + a \cdot y = -B \cdot z''$$

$$\frac{1}{a} y^{1v} + y = B \cdot z'' \dots\dots\dots (16)$$

II-1-2 Differansiyel Denklemin Çözümü:

II-1-2-1 Homojen Çözüm:

$$\frac{4.E.I}{B.C} \cdot \frac{d^4 y(x)}{dx^4} + 4 \cdot y(x) = 0$$

$$L^4 = \frac{4.E.I}{B.C} \quad \text{denirse.}$$

$$L = \sqrt[4]{\frac{4.E.I}{B.C}} \quad \text{olur.}$$

Ayrıca $\psi = \frac{x}{L}$ olarak tanımlanırsa;

$$\frac{d^4 M(x)}{dx^4} + 4 \cdot M(x) = 0 \quad \dots\dots\dots (17)$$

Çözüm $M_I(x) = e^{\mu \cdot}$ olarak seçilirse

$$\mu^4 \cdot e^{\mu} + 4 \cdot e^{\mu} = 0$$

$$\mu^4 + 4 = 0 \quad \dots\dots\dots (18) \quad \text{bulunur.}$$

(18) Denkleminin kökleri

$$\begin{aligned} \mu_1 &= 1+i & \mu_3 &= -(1+i) \\ \mu_2 &= 1-i & \mu_4 &= -(1-i) \end{aligned} \quad \text{olarak bulunur.}$$

Genel çözüm Homejen çözüm Özel çözüm.

$$y(x) = y_o(x) + y_I(x)$$

$$y(x) = y_o(x) + (A_1 \cdot \text{Cos} \psi \text{ ch} \psi + A_2 \text{Cos} \psi \cdot \text{sh} \psi + A_3 \cdot \text{Sin} \psi \cdot \text{ch} \psi + A_4 \text{Sin} \psi \cdot \text{sh} \psi)$$

$$\begin{aligned} \frac{dy}{dx} &= \frac{dy_o}{dx} + \frac{1}{L} (A_1 \cdot (\text{Cos} \psi \cdot \text{sh} \psi - \text{Sin} \psi \cdot \text{ch} \psi) + A_2 (\text{Cos} \psi \cdot \text{ch} \psi - \text{Sin} \psi \cdot \text{sh} \psi) \\ &\quad + A_3 (\text{Sin} \psi \cdot \text{sh} \psi - \text{Sin} \psi \cdot \text{ch} \psi) + A_4 (\text{Sin} \psi \cdot \text{ch} \psi + \text{Cos} \psi \cdot \text{sh} \psi)) \dots\dots (19) \end{aligned}$$

(19) numaralı denklemin bir kez daha türevi alınırsa momenti verecektir:

$$\begin{aligned} E \cdot I \cdot \frac{d^2 y}{dx^2} &= -M = E \cdot I \cdot \frac{d^2 y_o}{dx^2} - 2 \frac{E \cdot I}{L^2} (A_1 \text{Sin} \psi \cdot \text{sh} \psi + A_2 \text{Sin} \psi \cdot \text{ch} \psi - A_3 \text{Cos} \psi \cdot \text{sh} \psi \\ &\quad - A_4 \cdot \text{Cos} \psi \cdot \text{ch} \psi) \dots\dots\dots (20) \end{aligned}$$

(19) numaralı denklemin üçüncü türevi kesme kuvvetini verir:

$$\begin{aligned} E \cdot I \cdot \frac{d^3 y}{dx^3} &= -Q = E \cdot I \cdot \frac{d^3 y_o}{dx^3} - \frac{2E \cdot I}{L^3} (A_1 (\text{Sin} \psi \cdot \text{ch} \psi + \text{Cos} \psi \cdot \text{sh} \psi) \\ &\quad + A_2 (\text{Sin} \psi \cdot \text{sh} \psi + \text{Cos} \psi \cdot \text{ch} \psi) - A_3 (\text{Cos} \psi \cdot \text{ch} \psi - \text{Sin} \psi \cdot \text{sh} \psi) \\ &\quad - A_4 (\text{Cos} \psi \cdot \text{sh} \psi - \text{Sin} \psi \cdot \text{ch} \psi)) \dots\dots\dots (21) \end{aligned}$$

bulunur.

Buraya kadar kiriş diferansiyel denkleminin genel çözümü verilmiştir. Bazı özel durumlar için (kiriş boyunun sonsuz olması, kiriş uçlarında simetrik veya antisimetrik kuvvet grupları gibi) Çözümler bölüm II ve III'de anlatılmıştır. (21) denkleminin katsayılarının genel bir kirişteki, genel yüklemeye ait çözümü bölüm IV'de verilmiştir.

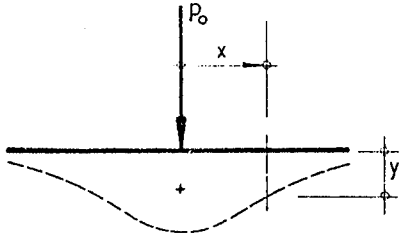
II -1-2-2. Diferansiyel Denkleminin K. BEYER'e Göre Özel Çözümleri (7)

II-1-2-2-1. Kirişin Ortasında P_0 tekil yükünün olması hali:

B: Kiriş genişliği (m)

C: Yatak katsayısı (t/m^3)

$$L = \sqrt[4]{\frac{4.E.I}{C.B}} \quad \psi = \frac{x}{L} \quad \text{olmak üzere}$$



$$y = \frac{P_0}{2.L.B.C} (e^{-\psi} \cos \psi + e^{-\psi} \sin \psi) \dots \dots (22)$$

$$\frac{dy}{dx} = -\frac{P_0}{L^2.B.C} e^{-\psi} \sin \psi$$

$$M = \frac{P_0.L}{4} (e^{-\psi} \cos \psi - e^{-\psi} \sin \psi)$$

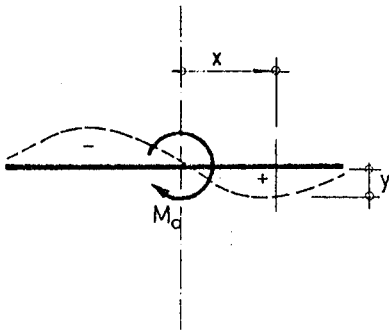
$$Q = -\frac{P_0}{2} e^{-\psi} \cos \psi \quad \text{olur.}$$

Şekil: 4. Kiriş Ortasında P_0 Tekil Kuvveti.

Eğer $x=0$ ise $\psi = \frac{x}{L} = 0$ olur. Bu durumda kuvvetin altında:

$$y = \frac{P_0}{2.L.B.C}; \quad \frac{dy}{dx} = 0; \quad M = \frac{P_0.L}{4}; \quad Q = -\frac{P_0}{L}$$

II-1-2-2-2. Kirişin Ortasında Moment Olması Hali:



$$y = \frac{M_0}{L^2.B.C} e^{-\psi} \sin \psi \dots \dots \dots (23)$$

$$\frac{dy}{dx} = \frac{M_0}{L^3.B.C} e^{-\psi} (\cos \psi - \sin \psi)$$

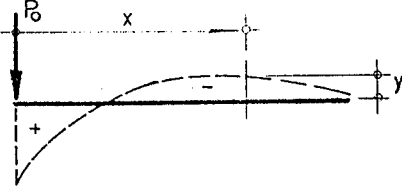
$$M = \frac{M_0}{2} e^{-\psi} \cos \psi$$

Şekil:5.Kiriş Ortasında M_0 Momenti. $Q = -\frac{M_0}{2.L} e^{-\psi} (\cos \psi + \sin \psi)$ olur.

Eğer $x=0$ ise $\psi = \frac{x}{L} = 0$ olur. Bu durumda;

$$y=0; \quad \frac{dy}{dx} = \frac{M_0}{L^3 \cdot B.C}; \quad M = \frac{M_0}{2}; \quad Q = -\frac{M_0}{2 \cdot L} \quad \text{olur.}$$

II-1-2-2-3. Kirişin Ucunda Tekil P_0 Kuvveti Etkirse:



$$y = \frac{2 \cdot P_0}{L \cdot B.C} e^{-\psi} \cdot \cos \psi \quad \dots \dots \dots (24)$$

$$\frac{dy}{dx} = -\frac{P_0}{L^2 \cdot B.C} e^{-\psi} (\cos \psi - \sin \psi)$$

Şekil: 6. Kirişin Ucunda P_0 Tekil Kuvveti.

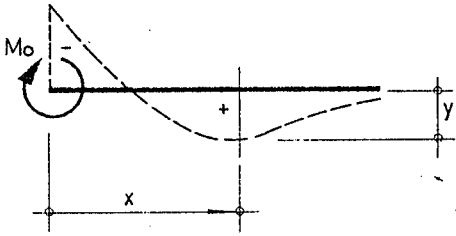
$$M = -P_0 \cdot L \cdot e^{-\psi} \cdot \sin \psi$$

$$Q = -P_0 \cdot e^{-\psi} (\cos \psi - \sin \psi)$$

$x=0$ da $\psi = \frac{x}{L} = 0$ olur. Bu durumda da;

$$y = \frac{2 \cdot P_0}{L \cdot B.C}; \quad \frac{dy}{dx} = -\frac{2 \cdot P_0}{L^2 \cdot B.C}; \quad M = 0; \quad Q = -P_0$$

II-1-2-2-4. Kirişin Ucunda Moment Etkimesi Hali:



$$y = \frac{2 \cdot M_0}{L^2 \cdot B.C} \cdot e^{-\psi} (\cos \psi - \sin \psi) \quad \dots \dots \dots (25)$$

$$\frac{dy}{dx} = \frac{4 \cdot M_0}{L^3 \cdot B.C} \cdot e^{-\psi} \cdot \cos \psi$$

$$M = M_0 \cdot e^{-\psi} (\cos \psi - \sin \psi)$$

Şekil: 7. Kirişin Ucunda M_0 Momenti.

$$Q = -\frac{2M_0}{L} e^{-\psi} \cdot \sin \psi$$

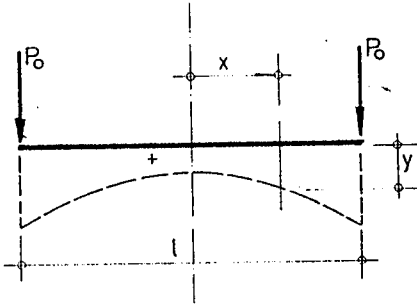
$x=0$ da $\psi = \frac{x}{L} = 0$ olacaktır. Bu durumda;

$$y = -\frac{2 \cdot M_0}{L^2 \cdot B.C}; \quad \frac{dy}{dx} = \frac{4 \cdot M_0}{L^3 \cdot B.C}; \quad M = M_0; \quad Q = 0$$

II-1-2-2-5. Kirişin Uç Nokkalarında Simetrik P_o Tekil Kuvvetlerinin Olması Halinde:

$$\begin{aligned} \eta_1 &= \text{Cos}\psi \cdot \text{ch}\psi ; & \eta_2 &= \text{Cos}\psi \cdot \text{sh}\psi \\ \eta_3 &= \text{Sin}\psi \cdot \text{ch}\psi & \eta_4 &= \text{Sin}\psi \cdot \text{sh}\psi \quad \text{ve} \quad \lambda = \frac{1}{L} \quad \text{olarak} \end{aligned}$$

tanımlanırsa;



Şekil:8.Kiriş Uçlarında Simetrik P_o Tekil Yüğü.

$$y = \frac{4.P_o}{L.B.C} (U_1 \cdot \eta_1 - U_4 \cdot \eta_4) , \dots\dots\dots(26)$$

$$\frac{dy}{dx} = \frac{4.P_o}{L^2.B.C} (U_1(\eta_2 - \eta_3) + U_4(\eta_2 + \eta_3))$$

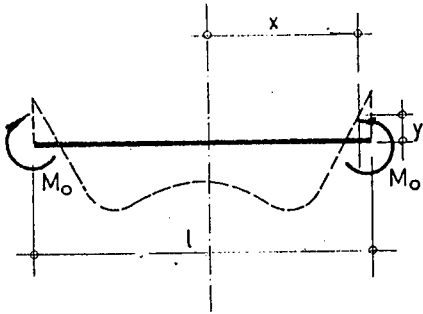
$$M = 2.P_o \cdot L(U_1 \cdot \eta_4 - U_4 \cdot \eta_1)$$

$$Q = 2.P_o (U_1(\eta_2 + \eta_3) - U_4(\eta_2 - \eta_3))$$

Burada;

$$U_1 = \frac{\text{Cos} \frac{\lambda}{2} \cdot \text{ch} \frac{\lambda}{2}}{\text{sh}\lambda + \text{Sin}\lambda} \quad \text{ve} \quad U_4 = \frac{\text{Sin} \frac{\lambda}{2} \cdot \text{sh} \frac{\lambda}{2}}{\text{sh}\lambda + \text{Sin}\lambda} \quad \text{dır.}$$

II-1-2-2-6. Kirişin Uç Nokkalarında Simetrik M_o Momenti Etkimesi Halinde:



Şekil: 9.Kiriş Uçlarında Simetrik M_o Momenti.

$$y = \frac{4.M_o}{L^2.B.C} (U_1 \cdot \eta_1 + U_4 \cdot \eta_4) \dots\dots\dots(27)$$

$$\frac{dy}{dx} = \frac{4.M_o}{L^3.B.C} (U_1(\eta_2 - \eta_3) + U_4(\eta_2 + \eta_3))$$

$$M = 2.M_o (U_1 \cdot \eta_4 - U_4 \cdot \eta_1)$$

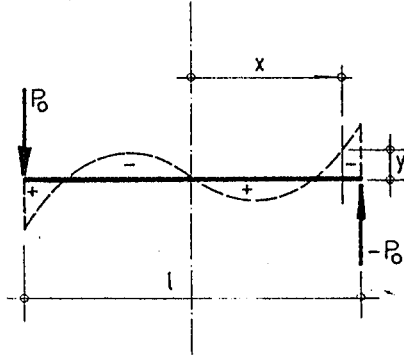
$$Q = \frac{2.M_o}{L} (U_1(\eta_2 + \eta_3) - U_4(\eta_2 - \eta_3))$$

Burada;

$$U_1 = \frac{\text{Sin} \frac{\lambda}{2} \cdot \text{ch} \frac{\lambda}{2} - \text{Cos} \frac{\lambda}{2} \cdot \text{sh} \frac{\lambda}{2}}{\text{sh}\lambda + \text{Sin}\lambda} \quad \text{ve} \quad U_4 = - \frac{\text{Sin} \frac{\lambda}{2} \cdot \text{ch} \frac{\lambda}{2} + \text{Cos} \frac{\lambda}{2} \cdot \text{sh} \frac{\lambda}{2}}{\text{sh}\lambda + \text{Sin}\lambda}$$

dır.

II-1-2-2-7. Kiriş uç noktalarında Antimetrik P_o Tekil Kuvvetlerinin Etkimesi Hali:



Şekil:10.Kiriş Uçlarında Antimetrik P_o Tekil Yüğü.

$$y = \frac{4.P_o}{L.B.C} (U_2\eta_2 + U_3\eta_3) \dots\dots\dots(28)$$

$$\frac{dy}{dx} = \frac{4.P_o}{L^2.B.C} (U_2(\eta_1 - \eta_4) + U_3(\eta_1 + \eta_4))$$

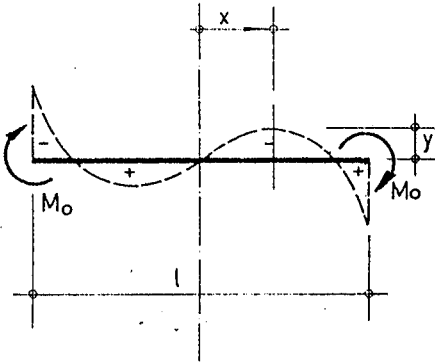
$$M = 2.P_o.L(U_2.\eta_3 - U_3.\eta_2)$$

$$Q = 2.P_o(U_2(\eta_1 + \eta_4) - U_3(\eta_1 - \eta_4))$$

Burada;

$$U_2 = - \frac{\cos \frac{\lambda}{2} . \text{sh} \frac{\lambda}{2}}{\text{sh}\lambda - \text{Sin}\lambda} \quad \text{ve} \quad U_3 = - \frac{\sin \frac{\lambda}{2} . \text{ch} \frac{\lambda}{2}}{\text{sh}\lambda - \text{Sin}\lambda}$$

II-1-2-2-8. Kiriş uç Noktalarında Antimetrik M_o Momentinin Etkimesi Hali:



Şekil: 11.Kiriş Uçlarında Antimetrik M_o Momenti.

$$y = \frac{4.M_o}{L^2.B.C} (U_2.\eta_2 + U_3\eta_3) \dots\dots\dots (29)$$

$$\frac{dy}{dx} = \frac{4.M_o}{L^3.B.C} (U_2(\eta_1 - \eta_4) + U_3(\eta_1 + \eta_4)) ,$$

$$M = 2.M_o(U_2.\eta_3 - U_3.\eta_2)$$

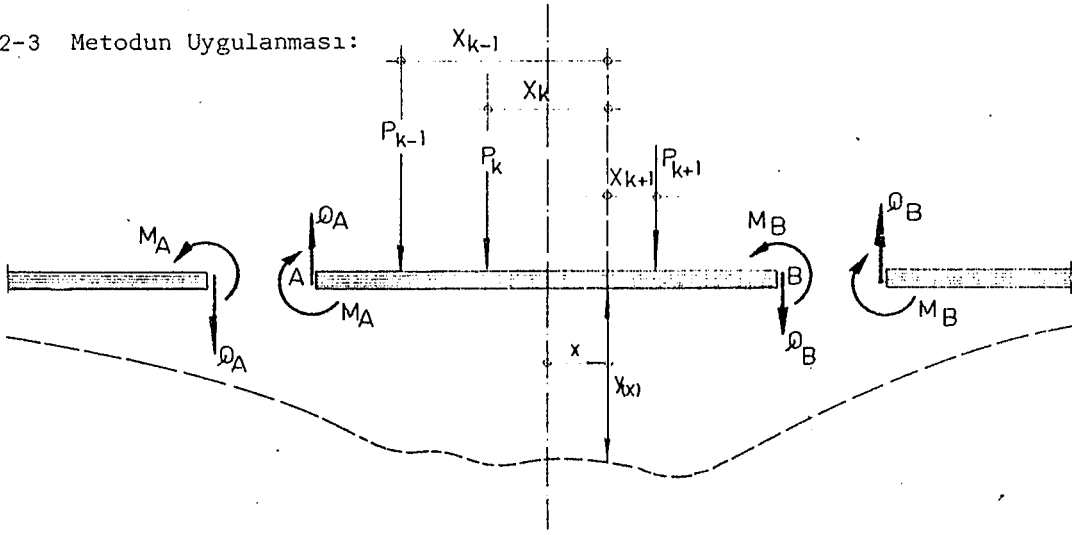
$$Q = \frac{2.M_o}{L} (U_2(\eta_1 + \eta_4) - U_3(\eta_1 - \eta_4))$$

Burada;

$$U_2 = - \frac{\sin \frac{\lambda}{2} . \text{sh} \frac{\lambda}{2} - \cos \frac{\lambda}{2} . \text{ch} \frac{\lambda}{2}}{\text{sh}\lambda - \text{Sin}\lambda} \quad \text{ve}$$

$$U_3 = \frac{\sin \frac{\lambda}{2} . \text{sh} \frac{\lambda}{2} + \cos \frac{\lambda}{2} . \text{ch} \frac{\lambda}{2}}{\text{sh}\lambda - \text{Sin}\lambda} \quad \text{dır.}$$

II-1-2-3 Metodun Uygulanması:

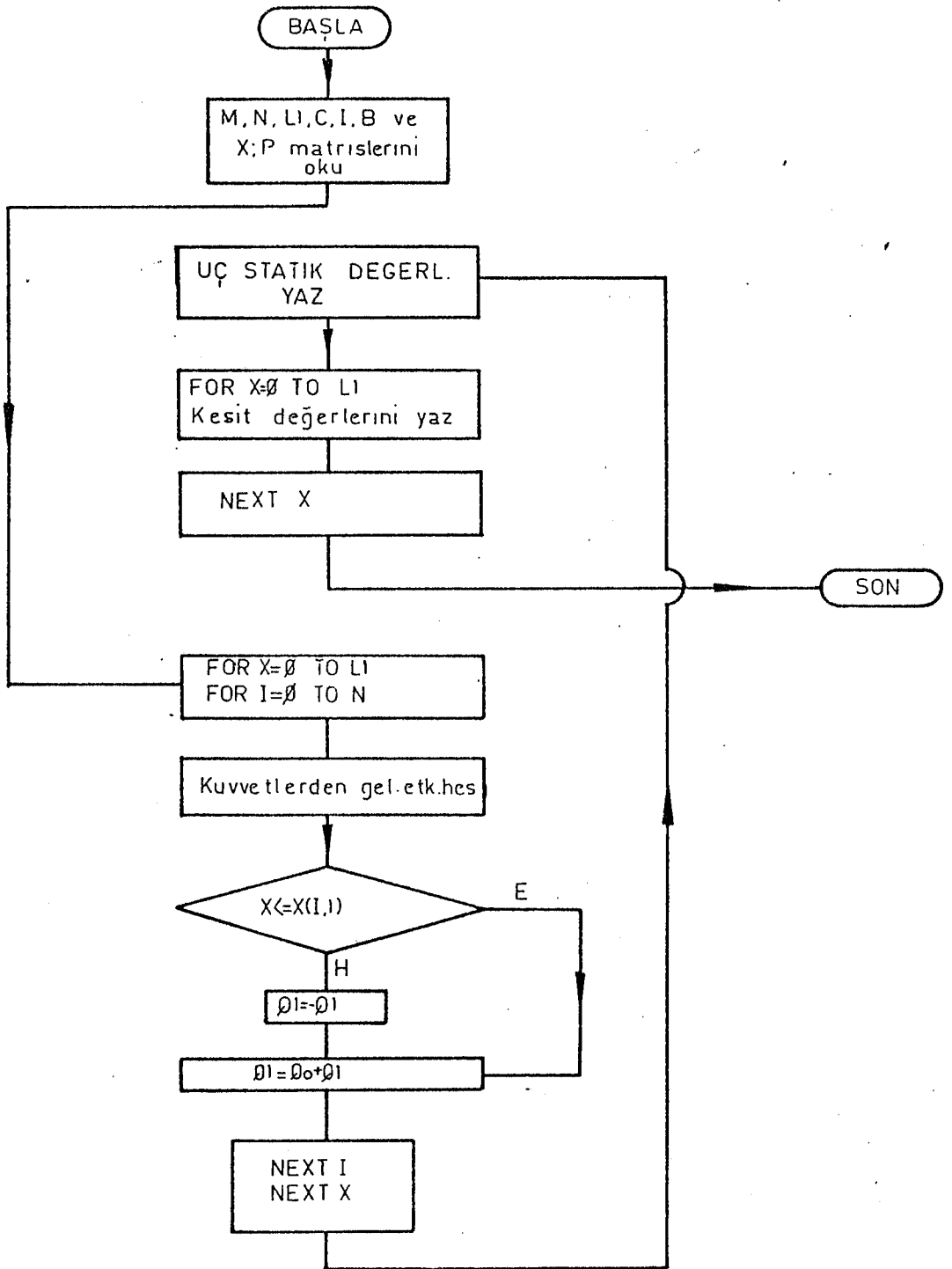


Şekil: 12. Differansiyel Denklemin Özel ve Genel Çözümünün Probleme Uygulanması.

Çözülmesi istenen, elastik zemine oturan sürekli kiriş; üzerindeki kuvvetlerin etkisi altında sonsuz kiriş gibi çözülür. Fakat gerçekte kiriş sonsuz uzunlukta değildir. Bu nedenle sonsuz uzunluktaki kirişten sonlu uzunlukta bir kiriş parçasını çıkarmak gerekir. Bunun için de sonlu uzunluktaki kirişin uç kuvvetleri hesaplanır. Bu uç kuvvetleri simetrik ve antimetrik şekilde ayrılarak bunlardan gelen etkiler daha önceki bölümde anlatıldığı gibi hesaplanır. Daha sonra da iki çözümden gelen etkiler toplanır.

Bu metoda ait BASIC dilinde yazılmış bilgisayar programı hazırlanmış akış diyagramı ve kullanılışı aşağıda sunulmuştur.

II-1-2-4 Akış Diyagramı.



II-1-2-5 BİLGİSAYAR PROGRAMININ KULLANILIŞI.

Bilgisayar programında 1750. satırda sırasıyla,

- a- Kirişin bölündüğü parça sayısı. Örnek olarak kiriş 10 m olsun ve her 25cm de statik değerler istenmiş olsun. Bu durumda kirişin bölündüğü parça sayısı 40 olur.
- b- Kiriş üzerinde bulunan kuvvetlerin sayısı
- c- Kirişin boyu (m)
- d- Elastik zeminin yatak katsayısı (ton/m^3)
- e- Kiriş kesitinin atalet momenti (m^4)
- f- Kirişin taban genişliği (m).
- g- 1760. satırda kuvvetlerin başlangıca olan uzaklıkları verilir.
- h- 1770. satırda kuvvetler soldan sağa doğru sırayla verilir.

```

10 EXTEND
20 OPEN "pr:" AS FILE 1
30 #1 = CHR$(29X)
40 #1 = #1
50 REM elastik zemine oturan kirislerin
60 REM KURT BAYER e gore cozumu
70 REM j=atalet mom.
80 REM c=yatak katsayisi
90 REM l1=iris boyu
100 REM n=kuvvet sayisi
110 REM m=kirisin bolundugu parca say.
120 REM (x)=kuvvetlerin baslangica olan uzakliklarini depolayan matris
130 REM 170.satirda istenen degerleri 1750.satirda veriniz
140 REM kuvvetlerin baslangica olan uzakliklarini 1760. satirda veriniz
150 REM kuvvetleri 1770. satirda veriniz
160 REM (p)=kuvvetleri depolayan matris
170 READ M,N,L1,C,J,B
180 DIM X(N,1),P(N,1),K1(2,1),C1(2,1)
190 Y=FNOKU(VAROOT(X(0,0)))
200 Y=FNOKU(VAROOT(P(0,0)))
210 E=2.1E+06
220 L=((4+E*I)/(8*C))^(.25)
230 GOSUB 1240
240 K2=(M1(2,1)-M1(1,1))/2
250 K1=(-1)*(M1(2,1)-K2)
260 P2=(C1(2,1)+C1(1,1))/2
270 P1=(-1)*(C1(2,1)-P2)
280 PRINT #1 "uc kesme kuv. ve uc momentler"
290 PRINT #1 "....."
300 PRINT #1 "K1=";K1;"(ton)";"K2=";K2;"(ton)"
310 PRINT #1 "P1=";P1;"(ton)";"P2=";P2;"(ton)"
320 PRINT #1
330 PRINT #1
340 PRINT #1
350 PRINT #1 "kesit          gerilme(t/m2)      moment(ton)      kesme(ton)"
360 PRINT #1 "*****          *****          *****          *****"
370 FOR X=0 TO L1 STEP (L1/M)
380   W0=0 : M0=0 : O0=0
390   FOR I=1 TO N
400     F=2*L
410     F=F*B
420     A=P(I,1)/F
430     B1=(P(I,1)*L)/4
440     C1=(-P(I,1)/2)
450     X1=ABS(X-X(1,1))
460     X1=X1/L
470     E=EXP(-X1)
480     K1=E*COS(X1)
490     K2=E*SIN(X1)
500     E1=K1+K2

```

```

510 E2=X1-X2
520 W1=A+E1
530 W0=W0+W1
540 K3=B1+E2
550 M0=M0+M3
560 Q1=C1*K1
570 IF X(X(1,1)) GOTO 600
580 IF X=X(N,1) GOTO 600
590 Q1=-Q1
600 Q0=Q0+Q1
610 NEXT I
620 Q0=-Q0
630 L2=L1/L
640 L3=L2/2
650 K1=COS(L3)
660 K2=SIN(L3)
670 K3=SIN(L2)
680 K4=((EXP(L3)+EXP(-L3)))/2
690 K5=((EXP(L3)-EXP(-L3)))/2
700 K6=((EXP(L2)+EXP(-L2)))/2
710 K7=K3+K6
720 K8=K6-K3
730 A1=(K1*K4)/K7
740 A2=(K2*K5)/K7
750 A6=(-1)*(K2*K4)/K8
760 A5=(K1*K5)*(-1)/K8
770 A8=(K2*K5)+(K1*K4)/K8
780 A3=(K2*K4)-(K1*K5)/K7
790 A4=(-1)*(K2*K4)+(K1*K5)/K7
800 A7=(-1)*(K2*K5)-(K1*K4)/K8
810 X3=X-(L1/2)
820 X2=X3/L
830 T1=COS(X2)
840 T2=SIN(X2)
850 T3=((EXP(X2)+(EXP(-X2)))/2)
860 T4=((EXP(X2)-(EXP(-X2)))/2)
870 N1=T1*T3
880 N2=T1*T4
890 N3=T2*T3
900 N4=T2*T4
910 W2=(A+P1)/(L*B)
920 W2=W2*(A1*N1+A2*N4)
930 IF X(0) THEN LET K2=(-1)*K2
940 W3=(A+P2)/(L*B)
950 W3=W3*(A5*N2+A6*N3)
960 W4=(A*M1)/((L^2)*B)
970 W4=W4*(A3*N1+A4*N4)
980 IF X(0) THEN LET K2=(-1)*K2
990 W5=(A*M2)/((L^2)*B)
1000 W5=W5*(A7*N2+A8*N3)

```

```

1010 W=W0+W2+W3+W4+W5
1020 M7=2*P1*L
1030 M7=M7*(A1*N4-A2*N1)
1040 M4=2*P2*L
1050 M4=M4*(A5*N3-A6*N2)
1060 M5=2*M1
1070 M5=M5*(A3*N4-A4*N1)
1080 M6=2*M2
1090 M6=M6*(A7*N3-A8*N2)
1100 M=M0+M7+M4+M5+M6
1110 Q2=(A1*(N2+N3)-A2*(N2-N3))
1120 Q2=2*P1*Q2
1130 Q3=(A5*(N1+N4)-A6*(N1-N4))
1140 Q3=2*P2*Q3
1150 Q4=(A3*(N2+N3)-A4*(N2-N3))
1160 Q4=(2*M1)/L*Q4
1170 Q5=(A7*(N1+N4)-A8*(N1-N4))
1180 Q5=(2*M2)/L*Q5
1190 Q=Q0+Q2+Q3+Q4+Q5
1200 PRINT #1 USING "##.##" X;
1210 PRINT #1 USING "###.###" " W,X,C
1220 NEXT X
1230 GOTO 1750
1240 FOR X=0 TO L1 STEP L1
1250 W=0 : M0=0 : Q0=0
1260 M0=0
1270 FOR I=1 TO N
1280 F=2*L
1290 F=F*B
1300 A=PII,11/E
1310 B1=(P(I,1)+L)/4
1320 C1=(-P(I,1)/2)
1330 X1=ABS(X-X(I,1))
1340 X1=X1/L
1350 E=EXP(-X1)
1360 K1=E*COS(X1)
1370 K2=E*SIN(X1)
1380 E1=K1+K2
1390 E2=K1-K2
1400 W1=A*E1
1410 W=W+W1
1420 M1=B1*E2
1430 M0=M0+M1
1440 Q1=C1*K1
1450 IF X(X(I,1)) GOTO 1480
1460 IF X=X(N,1) GOTO 1480
1470 Q1=-Q1
1480 Q0=Q0+Q1
1490 NEXT I
1500 Q0=-Q0

```

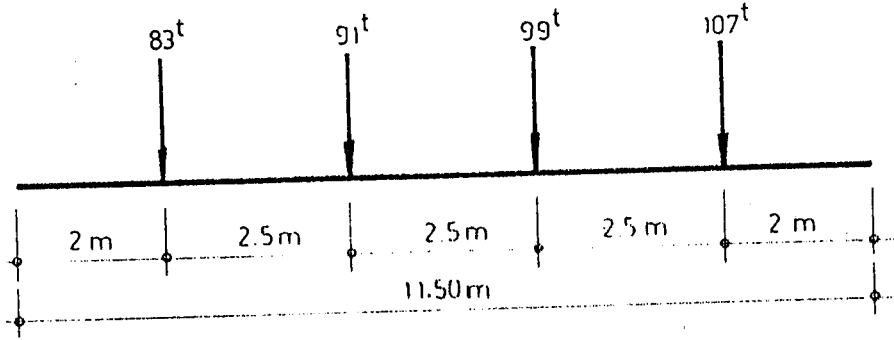
```

1510 IF X=0 THEN LET M(1,1)=X
1520 IF X=L1 THEN LET M(2,2)=X
1530 IF X=0 THEN LET Q(1,1)=0
1540 IF X=L1 THEN LET Q(2,2)=0
1550 NEXT X
1560 RETURN
1570 END
1580 REM tanitimi
1590 DEF FNSet(X1X,Y1X)
1600 FOR IX=0% TO 17%
1610 POKE Y1X+IX,PEEK(X1X+IX)
1620 NEXT IX : RETURN :
1630 FNEND
1640 REM n ve n
1650 DEF FNN9n(X%)=PEEK2(X%+0%)-1%
1660 DEF FNN9m(X%)=PEEK2(X%+14%)-1%
1670 REM matris oku
1680 DEF FNOku(X%)
1690 Y%=FNSet(X%,VARO01(A9a(x,0)))
1700 FOR YX=1% TO FNN9n(X%)
1710 FOR IX=1% TO FNN9m(X%)
1720 READ A9a(YX,IX)
1730 NEXT IX : NEXT YX : RETURN :
1740 FNEND
1750 DATA 46,4,11.5,20000,.20,0.92
1760 DATA 2,4.5,7,9.5
1770 DATA 83,91,99,107
1780 END

```

II-1-2-6 ÖRNEKLER

ÖRNEK: 1



Şekil:14. Örnek 1'e Ait Dataların Veriliş Sırası..

- Kirişin bölündüğü parça sayısı : $M = 46$
Kiriş üzerinde bulunan kuvvet sayısı: $N = 4$
Kirişin boyu : $L_1 = 11,5 \text{ m.}$
Elastik zeminin yatak katsayısı : $C = 20000 \text{ t/m}^3$
Kiriş kesitinin atalet momenti : $J = 0,20 \text{ m}^4$
Kirişin taban genişliği : $B = 0,92 \text{ m.}$

$$\underline{X} = \begin{bmatrix} 2.0 \\ 4.5 \\ 7.0 \\ 9.5 \end{bmatrix}$$

$$\underline{P} = \begin{bmatrix} 83 \\ 91 \\ 99 \\ 107 \end{bmatrix}$$

ÖRNEK 1 İÇİN BİLGİSAYARDAN ALINAN SONUÇLAR

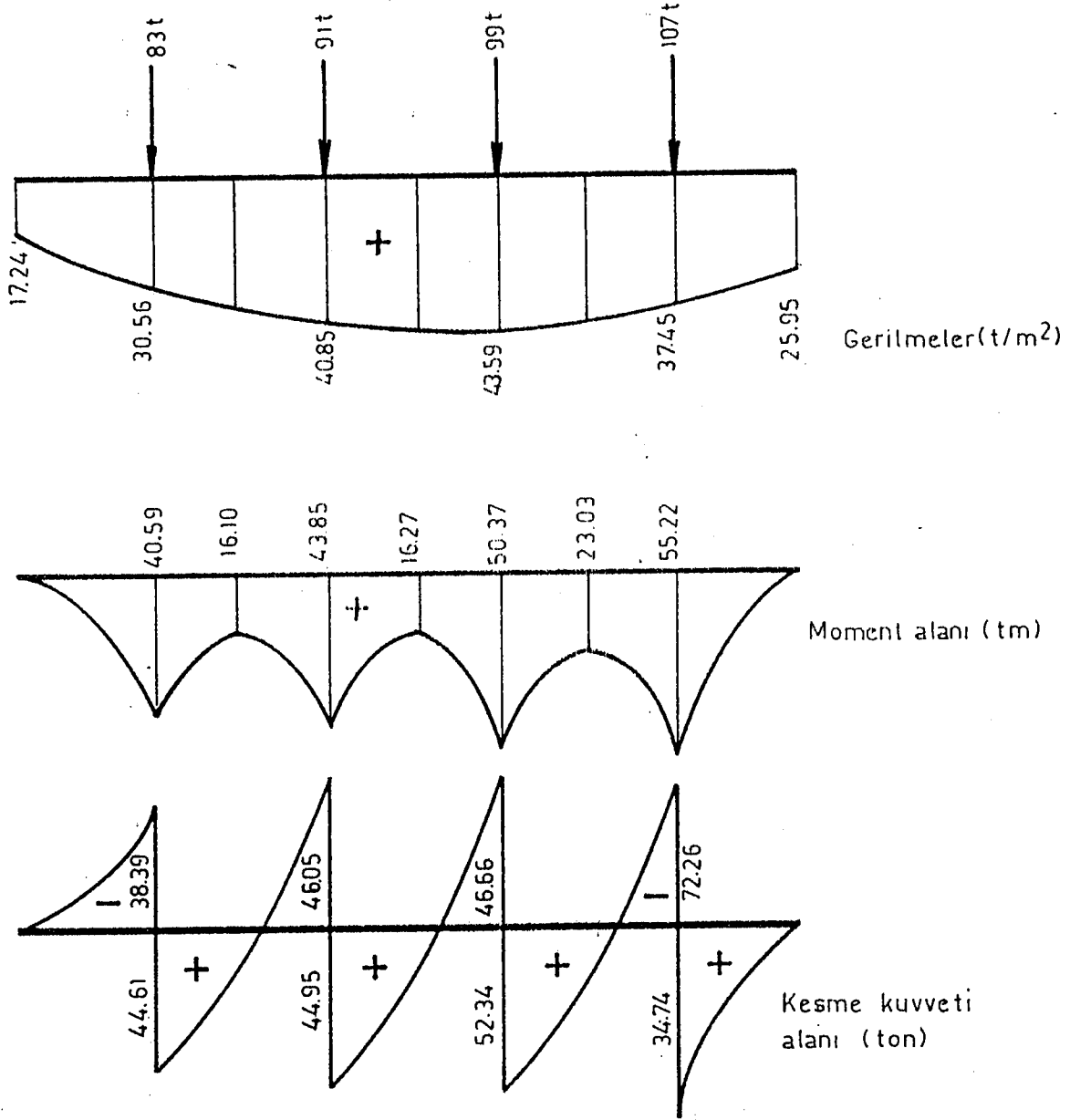
uc kesme kuv. ve uc momentler

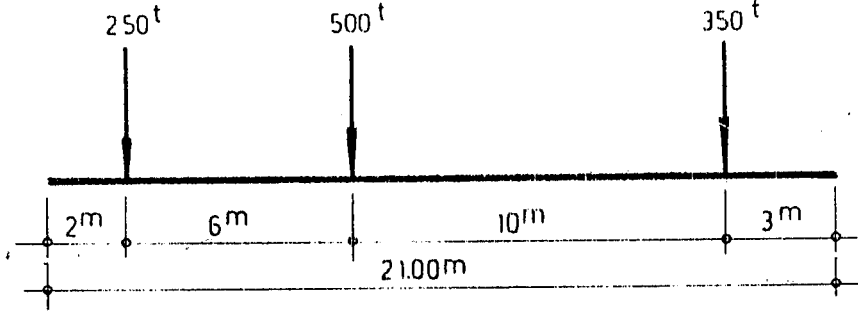
M1= 21.9049 (ton)
P1= 15.7688 (ton)

M2= 1.2235 (ton)
P2= -2.97007 (ton)

kesit	gerilme(t/m ²)	moment (ton)	kesme (ton)
*****	*****	*****	*****
0.00	17.56668	-0.00000	0.00000
0.25	19.26484	0.52132	4.23563
0.50	20.96119	2.15035	8.86170
0.75	22.65084	4.90462	13.87728
1.00	24.32563	9.11934	19.28003
1.25	25.97248	14.65522	25.06493
1.50	27.57540	21.60411	31.22392
1.75	29.11342	30.29009	37.74457
2.00	30.56088	40.58555	-30.33091
2.25	31.89742	31.87962	-31.20616
2.50	33.13863	25.00728	-23.72501
2.75	34.30494	20.04002	-15.96814
3.00	35.41112	17.04501	-7.94975
3.25	36.46686	16.08587	0.31706
3.50	37.47262	17.22331	8.27094
3.75	38.42737	20.51515	17.50050
4.00	39.32052	26.01629	26.49283
4.25	40.13569	33.77798	35.63198
4.50	40.84975	43.84700	-45.02249
4.75	41.44402	33.51427	-36.58651
5.00	41.93794	25.56411	-26.99592
5.25	42.35520	20.02501	-17.30092
5.50	42.71224	16.92105	-7.51712
5.75	43.01832	16.27279	2.34283
6.00	43.27535	18.09786	12.26756
6.25	43.47790	22.41099	22.24533
6.50	43.61314	29.22379	32.26226
6.75	43.66078	38.54393	42.30068
7.00	43.59308	50.37401	-46.66260
7.25	43.38711	39.96001	-36.65732
7.50	43.06158	32.04019	-26.71368
7.75	42.64010	26.59595	-16.85633
8.00	42.13885	23.60317	-7.10533
8.25	41.56676	23.03300	2.52213
8.50	40.92552	24.85260	12.01009
8.75	40.20972	29.02506	21.24217
9.00	39.40698	25.50916	30.49992
9.25	38.49798	44.25866	39.46125
9.50	37.45672	55.22117	22.26294
9.75	36.26384	41.56667	-50.32052
10.00	34.94668	30.03676	-42.12928
10.25	33.53962	20.49585	-34.20702
10.50	32.07100	12.89319	-26.70575
10.75	30.56375	7.11441	-19.00219
11.00	29.03481	3.10297	-12.64908
11.25	27.49621	0.76097	-6.74689
11.50	25.95496	-0.00000	0.00000

ÖRNEK: 1'e ait zemin gerilmesi Moment ve kesme kuvveti diyagramları.





Şekil:15. Örnek 2'ye Ait Dataların Veriliş Sırası.

- Kirişin bölündüğü parça sayısı : $M = 42$
Kiriş üzerindeki kuvvet sayısı : $N = 3$
Kirişin boyu : $L_1 = 21 \text{ m}$
Elastik zeminin yatak katsayısı : $C = 10000 \text{ t/m}^3$
Kiriş kesitinin atalet momenti : $J = 1,08 \text{ m}^4$
Kirişin taban genişliği : $B = 3,20 \text{ m}$.

$$\underline{X} = \begin{bmatrix} 2,0 \\ 8,0 \\ 1,8 \end{bmatrix}$$

$$\underline{P} = \begin{bmatrix} 250 \\ 500 \\ 350 \end{bmatrix}$$

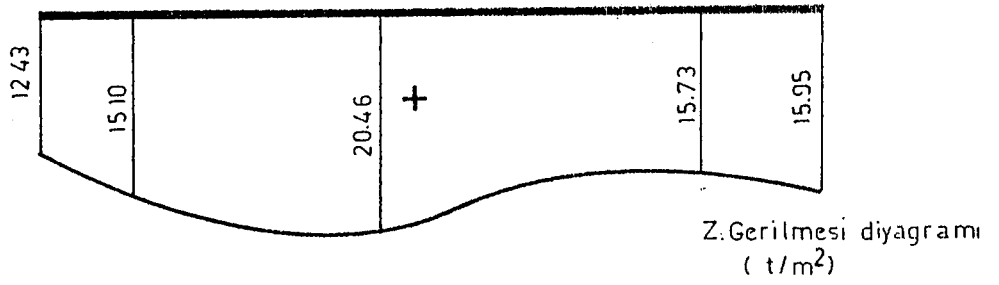
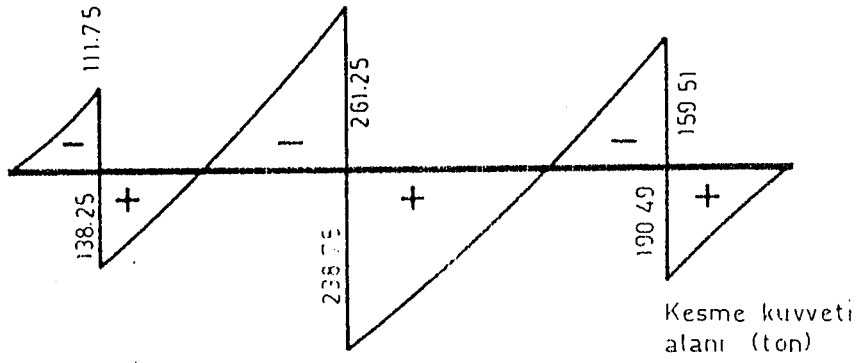
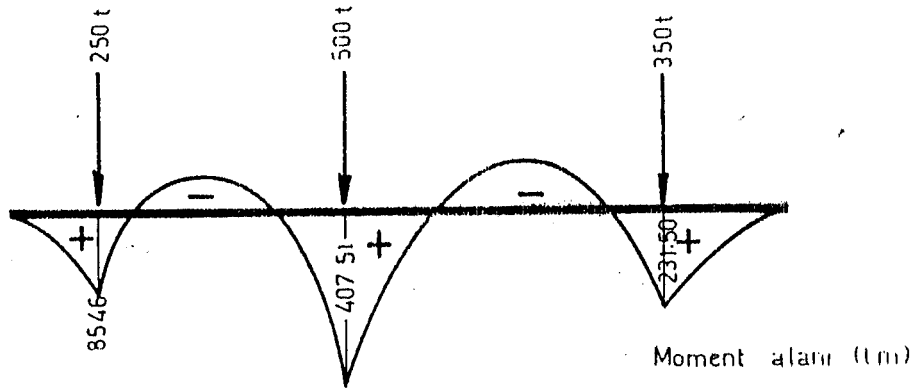
ÖRNEK 2 İÇİN BİLGİSAYARDAN ALINAN SONUÇLAR

UC KESİME KUV. VE UC MOMENTLERİ

M1= 22.0045 (tm) M2= 16.8934 (tm)
P1= 46.2639 (ton) P2=-5.85092 (ton)

kesit	gerilme(t/m ²)	moment (tm)	kesme(ton)
*****	*****	*****	*****
0.00	12.43221	-0.00025	0.00003
0.50	13.12889	5.06582	20.44910
1.00	13.81901	20.63440	42.00915
1.50	14.48538	47.25655	64.65748
2.00	15.09859	85.46360	-111.66584
2.50	15.63485	35.74388	-87.07029
3.00	16.13057	-1.47058	-61.65564
3.50	16.62672	-25.70053	-35.45199
4.00	17.15007	-36.78728	-8.43535
4.50	17.71261	-34.07374	19.45052
5.00	18.31155	-17.18357	48.26536
5.50	18.92807	14.35620	78.05640
6.00	19.52735	61.03699	108.82600
6.50	20.05791	123.33500	140.50750
7.00	20.45104	201.67010	172.93800
7.50	20.62030	296.35120	205.03100
8.00	20.46152	407.50690	236.70100
8.50	19.89791	395.00340	-225.91310
9.00	19.01867	178.39750	-197.74600
9.50	17.94139	86.99326	-158.15960
10.00	16.76690	9.33528	-100.30010
10.50	15.58022	-53.70909	-114.51080
11.00	14.45161	-104.88580	-60.43770
11.50	13.43755	-144.49350	-66.20432
12.00	12.58177	-173.34060	-47.41230
12.50	11.91614	-192.10950	-27.84105
13.00	11.46139	-201.33150	-9.16809
13.50	11.22773	-201.36960	8.95347
14.00	11.21521	-192.41070	26.87877
14.50	11.41396	-174.46550	44.95502
15.00	11.80410	-147.37640	63.50573
15.50	12.35599	-110.83310	82.81475
16.00	13.02906	-64.39689	103.10980
16.50	13.77215	-7.53270	124.54530
17.00	14.52254	60.34970	147.18480
17.50	15.20534	139.84570	170.98160
18.00	15.73286	231.49560	194.51370
18.50	16.03621	180.71610	-128.79690
19.00	16.16123	102.75370	-103.01970
19.50	16.17176	57.71256	-77.14170
20.00	16.11754	25.60486	-51.30429
20.50	16.03389	6.38909	-25.58099
21.00	15.94202	-0.00000	0.00000

ÖRNEK: 2'ye ait kesme kuvveti, moment ve zemln gerilmesini diyagramları.



c- $M_B = 0$ şartı:

$$M_B = P_1' \eta''_{B1} + P_2' \eta''_{B2} + P_3' \eta''_{B3} + P_4' \eta''_{B4} + \sum_1^n P_i \cdot \eta''_{Bi} = 0 \quad \dots \dots \dots (32)$$

d- $Q_B = 0$ şartı:

$$Q_B = -P_1' \eta'''_{B1} - P_2' \eta'''_{B2} + P_3' \eta'''_{B3} + P_4' \eta'''_{B4} - \sum_1^n P_i \cdot \eta'''_{Bi} = 0 \quad \dots \dots \dots (33)$$

$\text{Cos } \frac{\pi}{4} = \text{Sin } \frac{\pi}{4}$ olduğundan $\eta''_{A1} = \eta''_{B3} = 0$ olur.

Ayrıca $\text{Cos } \frac{\pi}{4} = 0$ olduğundan $\eta'''_{A1} = \eta'''_{B4} = 0$ olur.

Yukarıdaki denklem sisteminde bilinmeyenler fiktif kuvvetlerdir (P_1', P_2', P_3', P_4'). Bu lineer denklem sistemi matris notasyonunda yazılırsa:

$$\begin{bmatrix} 0 & \eta''_{A2} & \eta''_{A3} & \eta''_{A4} \\ \eta'''_{A1} & 0 & \eta'''_{A3} & \eta'''_{A4} \\ \eta''_{B1} & \eta''_{B2} & 0 & \eta''_{B4} \\ -\eta'''_{B1} & \eta'''_{B2} & \eta'''_{B3} & 0 \end{bmatrix} \begin{bmatrix} P_1' \\ P_2' \\ P_3' \\ P_4' \end{bmatrix} = \begin{bmatrix} -\sum P_i \cdot \eta''_{Ai} \\ -\sum P_i \cdot \eta'''_{Ai} \\ -\sum P_i \cdot \eta''_{Bi} \\ \sum P_i \cdot \eta'''_{Bi} \end{bmatrix}$$

elde edilir.

Burada kuvvetler sonlu giriş uç noktalarından sırasıyla $-L/2$ ve $L/2$ kadar uzaklıklarda etki ettirilirse $\text{Cos } L/4 = \text{Sin } L/4$ olacağından bu değerleri içeren η'' terimleri sıfır olur.

Ayrıca $\bar{A}B/L$ oranı 5 den büyük olursa:

$\eta''_{B1} = \eta'''_{B1} = \eta''_{B2} = \eta'''_{B2} = \eta''_{A3} = \eta''_{A4} = \eta'''_{A4} = 0$ alınabilir. Bütün bu basitleştirmeler gözönüne alınırsa ve:

$$\eta'''_{B3} = \eta'''_{A1} = e^{-\psi} \cdot \text{Cos } \psi = e^{-\frac{\pi}{4}} \cdot \text{Cos } \frac{\pi}{4} = 0,4561.0,4561.0,7071 = 0,3224$$

$$\eta''_{B2} = \eta''_{A2} = e^{-\psi} (\text{Cos } \psi - \text{Sin } \psi) = e^{-\frac{\pi}{2}} (\text{Cos } \frac{\pi}{2} - \text{Sin } \frac{\pi}{2}) = -e^{-\frac{\pi}{2}} \text{Sin } \frac{\pi}{2} = -0,2079$$

olarak hesaplanırsa:

Lineer denklem sistemi şöyle yazılabilir.

$$\begin{bmatrix} - & -0,2079 & - & - \\ -0,3224 & - & - & - \\ - & - & - & -0,2079 \\ - & - & + 0,3224 & - \end{bmatrix} \begin{bmatrix} P'_1 \\ P'_2 \\ P'_3 \\ P'_4 \end{bmatrix} = \begin{bmatrix} -\sum P_i \cdot \eta''_{Ai} \\ -\sum P_i \cdot \eta'''_{Ai} \\ -\sum P_i \cdot \eta''_{Bi} \\ \sum P_i \cdot \eta'''_{Bi} \end{bmatrix}$$

Buradan:

$$-0,3224 P'_1 + \sum P_i \eta''_{Ai} = 0 ; \quad P'_1 = \frac{P_i \cdot \eta''_{Ai}}{0,3224} \dots \dots \dots (36)$$

$$-0,2079 P'_2 + \sum P_i \eta'''_{Ai} = 0 ; \quad P'_2 = \frac{P_i \cdot \eta'''_{Ai}}{0,2079} \dots \dots \dots (37)$$

$$0,3224 P'_3 - \sum P_i \eta''_{Bi} = 0 ; \quad P'_3 = \frac{P_i \cdot \eta''_{Bi}}{0,3224} \dots \dots \dots (38)$$

$$-0,2079 P'_4 + \sum P_i \cdot \eta'''_{Bi} = 0 ; \quad P'_4 = \frac{P_i \cdot \eta'''_{Bi}}{0,2079} \dots \dots \dots (39)$$

olarak hesaplanır.

Yukarıdaki kuvvetler hesaplandıktan sonra bütün kuvvetler sonsuz uzunlukta kirişe etkiyormuş gibi çözüm yapılarak herhangi bir k noktasında statik değerler;

$$M_k = \frac{L}{4} \sum_1^n P_i \cdot \eta''_{ki} \quad (\text{tm}) \dots \dots \dots (40)$$

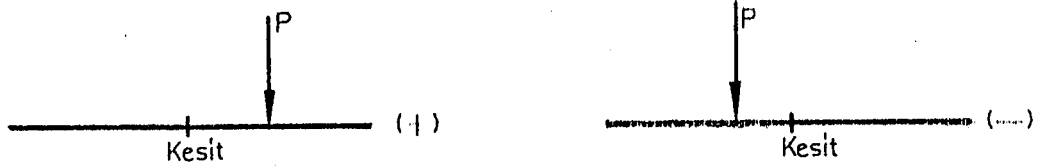
$$Q_k = \frac{1}{2} \sum_1^n P_i \cdot \eta'''_{ki} \quad (\text{ton}) \dots \dots \dots (41)$$

$$\bar{P}_k = \frac{1}{2L} \sum_1^n P_i \cdot \eta'''_{ki} \quad (\text{t/m}^2) \dots \dots \dots (42)$$

olarak hesaplanır.

Burada $L = \sqrt{\frac{4 \cdot E \cdot I}{C \cdot B}}$ dir.

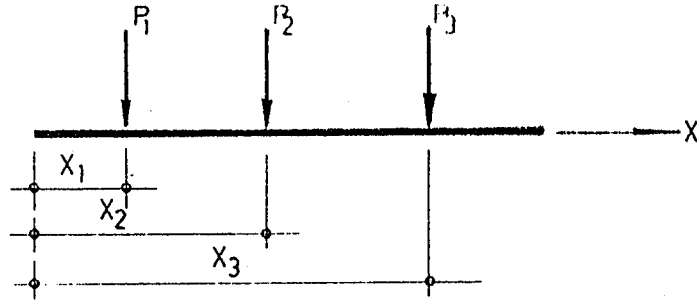
Yalnız (41) denkleminde kesitli kuvvete göre durumunun gözönüne alınması gereklidir. Eğer kesit kuvvetin solunda ise $P_1 \cdot 10^{11}$ değeri toplama pozitif işaretle, sağında ise negatif işaretle katılır (Şekil:17).



Şekil: 17. Kesitle Kuvvetin Birbirine Göre Durumları.

Metodun uygulaması ile ilgili PAFC-III'de yazılan bilgisayar programına alt akış diyagramı, Dataların verilmiş sırası, ve bilgisayar programı verilmiştir. Ayrıca çözülmüş iki örneğe ait zemin gerilmesi ve moment diyagramları çizilmiştir.

II-2-2 Bilgisayara Verilerin Veriliş Sırası:

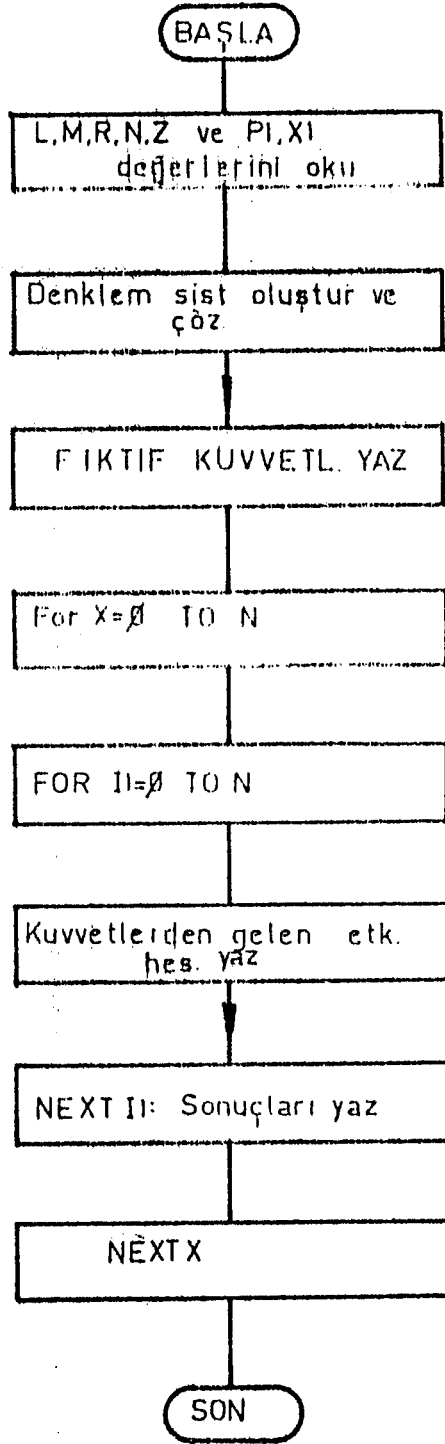


Şekil: 18. Kuvvetlerin ve Kuvvetlerin Başlangıcı Olan Uzaklıklarının Veriliş Sırası.

Hazırlanan bilgisayar programının 150. satırında istenen;

- Kirişin boyu L metre olarak;
- Kirişteki ara sayısı. Örneğin kiriş üzerinde üç kuvvet varsa parça sayısı dördür.
- Kirişin bölündüğü sayı. Örneğin kirişin boyu 20m ise ve her 0,50 m de bir statik değerler isteniyorsa kirişin bölündüğü parça sayısı $R = 20/0,50 = 40$ olacaktır.
- Kuvvet sayısı (N)
- Kirişin elastik boyu ($L = n \sqrt{4EI/CB}$) (m) verilir. Değerler 1150. satırda verilir.
1160. satırda kuvvetler soldan sağa sırayla verilir.

Akış Diyagramı.



```

10 EXTEND
20 READ X$
30 OPEN X$ AS FILE 1
40 PRINT #1 CHR$(29X)
50 PRINT #1
60 REM 140. satirdaki L,M,R,N,Z yi 1150. satirda veriniz
70 REM l=kirisin boyu(m)
80 REM M=kiristeki arasayisi
90 REM R=kirisin bolundugu parca sayisi
100 REM N=kuvvet sayisi
110 REM Z=kirisin elastik boy(m)
120 REM 1160. satirda kuvvetleri soldan saga sirayla veriniz(ton)
130 REM 1170. satirda data olarak dorttane sifir veriniz
140 REM 1180. satirda kuvvetlerin baslangicla olan uzakliklarin (lx|s|n) mol ucunu referans olarak veriniz(m)
150 READ L, M, R, N, Z
160 M1=N+4
170 N1=N+4
180 DIM P1(N1,1), X1(N1,1)
190 DIM P(1,M1), X(1,N), A(4,4), B(4,1), F(4,1), D(4,4), D1(4,4)
200 P=VAROOT(P(0,0)) : X=VAROOT(X(0,0)) : C=VAROOT(C(0,0)) : D=VAROOT(D(0,0)) : D1=VAROOT(D1(0,0))
210 A=VAROOT(A(0,0)) : B=VAROOT(B(0,0)) : F=VAROOT(F(0,0)) : P1=VAROOT(P1(0,0))
220 X1=VAROOT(X1(0,0))
230 Y=FNOku(P)
240 Y=FNOku(X)
250 DEF FNM(Q)=EXP(-Q)*(COS(Q)-SIN(Q))
260 DEF FNM(Q)=EXP(-Q)*COS(Q)
270 DEF FNP(Q)=EXP(-Q)*(COS(Q)+SIN(Q))
280 A(1,1)=FNM(PI/4)
290 A(3,3)=A(1,1)
300 A(1,2)=FNM(PI/2)
310 A(3,4)=A(1,2)
320 A(2,1)=(FNM(PI/4))*(-1)
330 A(2,2)=FNM(PI/2)
340 A(4,3)=FNM(PI/4)
350 A(4,4)=A(2,2)
360 L1=(L+(PI*Z/4))/Z
370 L2=(L+(PI*Z/2))/Z
380 A(1,3)=FNM(L1)
390 A(1,4)=FNM(L2)
400 A(2,3)=FNM(L1)
410 A(2,4)=FNM(L2)
420 A(3,1)=A(1,3)
430 A(3,2)=A(1,4)
440 A(4,1)=(-1)*A(2,3)
450 A(4,2)=(-1)*A(2,4)
460 T1=0
470 T2=0
480 T3=0
490 T4=0
500 FOR I=1 TO N

```

```

510 D=X(1,1)/Z
520 B1=FNM(Q)
530 B1=B1*P(1,1)
540 T1=T1+B1
550 B2=FNM(Q)
560 B2=B2*P(1,1)
570 T2=T2+B2
580 Q2=(L-X(1,M-1))/Z
590 B3=FNM(Q2)
600 B3=B3*P(1,M-1)
610 T3=T3+B3
620 B4=FNM(Q2)
630 B4=B4*P(1,M-1)
640 T4=T4+B4
650 NEXT I
660 B(1,1)=-T1
670 B(2,1)=-T2
680 B(3,1)=-T3
690 B(4,1)=T4
700 PRINT #1
710 Y=FNBir(D)
720 Y=FNEsit(A,D1)
730 Y=FNSauss(A,D)
740 Y=FNCarp(D,B,F)
750 PRINT #1 "FIKTIF KUVVETLER"
760 PRINT #1 "===== "
770 PRINT #1
780 PRINT #1 "P1=";F(1,1);"(ton)", "P2=";F(2,1);"(ton)"
790 PRINT #1 "P3=";F(3,1);"(ton)", "P4=";F(4,1);"(ton)"
800 PRINT #1
810 PRINT #1
820 P1(1,1)=F(1,1)
830 P1(2,1)=F(2,1)
840 P1(N1,1)=F(4,1)
850 P1(N1-1,1)=F(3,1)
860 FOR U=3 TO N+2
870 P1(U,1)=P1(U-2)
880 NEXT U
890 X1(1,1)=-P1*Z/4
900 X1(2,1)=-P1*Z/2
910 X1(N1,1)=L+(P1*Z/2)
920 X1(N1-1,1)=L+(P1*Z/4)
930 FOR U1=3 TO N+2
940 X1(U1,1)=X1(1,U1-2)
950 NEXT U1
960 PRINT #1 "KEBİT(m)          Z.GERİLME(t/m^2)          MOMENT(t.m) "
970 PRINT #1 "*****          *****          *****"
980 PRINT #1
990 FOR X=0 TO L STEP L/R
1000 S1=0 : S3=0

```

```

1010 FOR I1=1 TO N1
1020 X1=X1(I1,1)-X
1030 V1=ABS(X1/Z)
1040 D=(EXP(-V1))*(COS(V1)-SIN(V1))
1050 D2=(EXP(-V1))*(COS(V1)+SIN(V1))
1060 S1=S1+D*P1(I1,1)
1070 S3=S3+D2*P1(I1,1)
1080 NEXT I1
1090 S1=(Z/4)*S1
1100 S3=(1/(2*Z))*S3
1110 PRINT #1 USING "###.##" X1
1120 PRINT #1 USING "###.####" S3;S1
1130 NEXT X
1140 DATA "pr:"
1150 DATA 21,4,42,3,4.1
1160 DATA 250,500,350
1170 DATA 0,0,0,0
1180 DATA 2,0,10
1190 END
1200 REM tanitim
1210 DEF FNSet(X1X,Y1X)
1220 FOR I1=0X TO 17X
1230 POKE Y1X+I1X,PEEK(X1X+I1X)
1240 NEXT I1 : RETURN I
1250 FNEND
1260 REM n ve
1270 DEF FNN9n(X1X)=PEEK2(X1X+0X)-1X
1280 DEF FNN9m(X1X)=PEEK2(X1X+14X)-1X
1290 REM matris oku
1300 DEF FNOku(X1X)
1310 I1=FNSet(X1X,VAROOT(A9a(0,0)))
1320 FOR J1=1X TO FNN9n(X1X)
1330 FOR I1=1X TO FNN9m(X1X)
1340 READ A9a(J1,I1)
1350 NEXT I1 : NEXT J1 : RETURN I
1360 FNEND
1370 REM matrisbas
1380 DEF FNBas(X1X)
1390 I1=FNSet(X1X,VAROOT(A9a(0,0)))
1400 FOR J1=1X TO FNN9n(X1X)
1410 FOR I1=1X TO FNN9m(X1X)
1420 PRINT #1 USING "+.#####" A9a(J1,I1);
1430 NEXT I1 : PRINT #1 : NEXT J1 : RETURN I
1440 FNEND
1450 REM birim matris
1460 DEF FNBir(X1X)
1470 J1=FNSet(X1X,VAROOT(A9a(0,0)))
1480 FOR J1=1X TO FNN9n(X1X)
1490 FOR I1=0X TO FNN9n(X1X)
1500 A9a(J1,I1)=0

```

```

1510 NEXT IX : (A9a(JX, JX)=1 : NEXT JX : RETURN 1
1520 FNEND
1530 REM esitle
1540 DEF FNEsit(XX, YX)
1550 KX=FNSet(YX, VAROOT(B9b(0, 0)))
1560 KX=FNSet(XX, VAROOT(A9a(0, 0)))
1570 FOR KX=1X TO FNN9n(XX)
1580   FOR IX=1X TO FNN9m(XX)
1590     B9b(KX, IX)=A9a(KX, IX)
1600   NEXT IX : NEXT KX : RETURN 1
1610 FNEND
1620 REM matris carpmi
1630 DEF FNCarp(XX, YX, ZX)
1640 IX=FNSet(XX, VAROOT(A9a(0, 0)))
1650 IY=FNSet(YX, VAROOT(B9b(0, 0)))
1660 IZ=FNSet(ZX, VAROOT(C9c(0, 0)))
1670 FOR IX=1X TO FNN9n(XX)
1680   FOR KX=1X TO FNN9m(ZX)
1690     S=0
1700     FOR JX=1X TO FNN9n(YX)
1710       S=S+A9a(IX, JX)*B9b(JX, KX)
1720   NEXT JX : C9c(IX, KX)=S : NEXT KX : NEXT IX : RETURN 1
1730 FNEND
1740 REM denklem sistemi cozumu ax=b
1750 DEF FNGauss(XX, YX)
1760 IX=FNSet(XX, VAROOT(A9a(0, 0)))
1770 IY=FNSet(YX, VAROOT(B9b(0, 0)))
1780 NaX=FNN9n(XX) : MbX=FNN9m(YX)
1790 IF NaX() FNN9m(XX) 2410
1800 IF NaX() FNN9n(YX) 2410
1810 Gr=0
1820 IsX=1X
1830 REM norm (wilkinson)
1840 FOR IX=1X TO NaX
1850   T=0
1860   FOR JX=1X TO MbX
1870     T=T+ABS(A9a(IX, JX))
1880   NEXT JX
1890   IF T>Gr Gr=T
1900 NEXT IX
1910 Gr=Gr*1.E-08
1920 REM eliminasyon
1930 FOR IX=1X TO NaX-1X
1940   T=0
1950   IvX=0
1960   FOR JX=IX TO NaX
1970     IF ABS(A9a(JX, IX))>T T=ABS(A9a(JX, IX)) : IvX=JX
1980   NEXT JX
1990   IF T(Gr 2390
2000   IF IX=IvX 2140

```

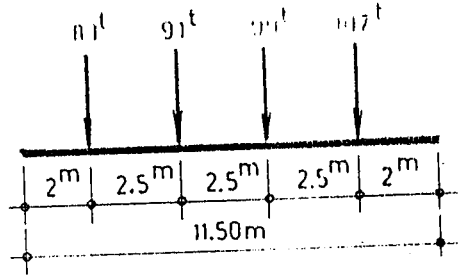
```

2010 REM satir degistirme
2020 Is=-Is
2030 FOR Jx=1x TO Max
2040 T=A9a(1x,Jx)
2050 A9a(1x,Jx)=A9a(Ivx,Jx)
2060 A9a(Ivx,Jx)=T
2070 NEXT Jx
2080 FOR Jx=1x TO Mbx
2090 T=B9b(1x,Jx)
2100 B9b(1x,Jx)=B9b(Ivx,Jx)
2110 B9b(Ivx,Jx)=T
2120 NEXT Jx
2130 REM eliminasyon
2140 T=A9a(1x,1x)
2150 FOR Jx=1x+1x TO Max
2160 A1=A9a(Jx,1x)/T
2170 FOR Kx=1x+1x TO Max
2180 A9a(Jx,Kx)=A9a(Jx,Kx)-A1*A9a(1x,Kx)
2190 NEXT Kx
2200 FOR Kx=1x TO Mbx
2210 B9b(Jx,Kx)=B9b(Jx,Kx)-A1*B9b(1x,Kx)
2220 NEXT Kx : NEXT Jx : NEXT 1x
2230 REM peri hesap
2240 Det=A9a(Max,Max)
2250 IF ABS(T) (Gr-23)w
2260 FOR Jx=1x TO Mbx
2270 B9b(Max,Jx)=B9b(Max,Jx)/Det
2280 NEXT Jx
2290 FOR 1x=Max-1x TO 1x STEP -1x
2300 T=A9a(1x,1x)
2310 Det=Det*T
2320 FOR Jx=1x TO Mbx
2330 A1=B9b(1x,Jx)
2340 FOR Kx=1x+1x TO Max
2350 A1=A1-A9a(1x,Kx)*B9b(Kx,Jx)
2360 NEXT Kx
2370 B9b(1x,Jx)=A1/T
2380 NEXT Jx : NEXT 1x : RETURN Det:1x
2390 PRINT "###matris tekeil-gauss"
2400 STOP
2410 PRINT "###dim hatasi-gauss"
2420 STOP
2430 FEND

```

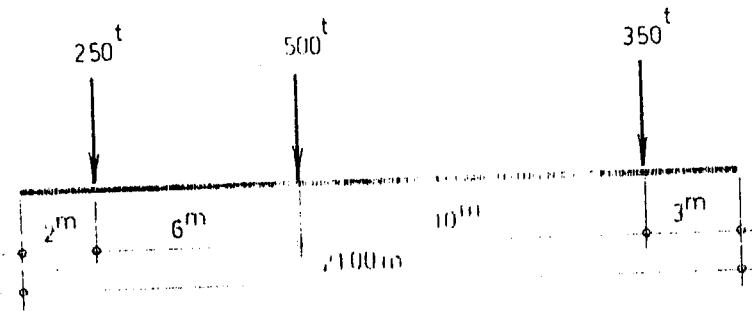
II-2-3 ÖRNEKLER

ÖRNEK: 1



$C = 20000 \text{ t/m}^3$
 $J = 0.20 \text{ m}^4$
 $B = 0.92 \text{ m}$

ÖRNEK: 2



$C = 10000 \text{ t/m}^3$
 $J = 100 \text{ m}^4$
 $B = 3.20 \text{ m}$

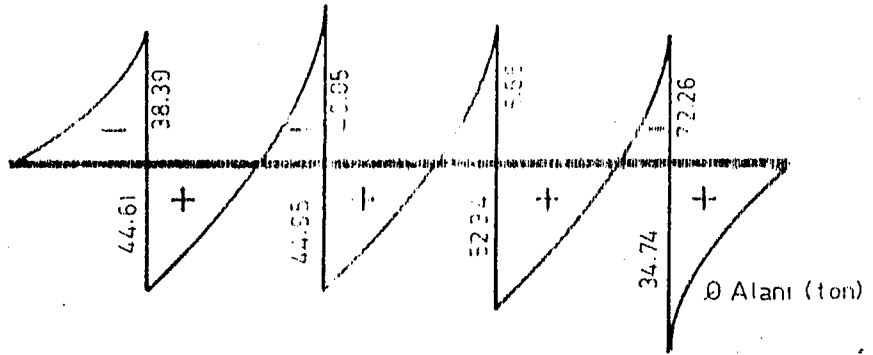
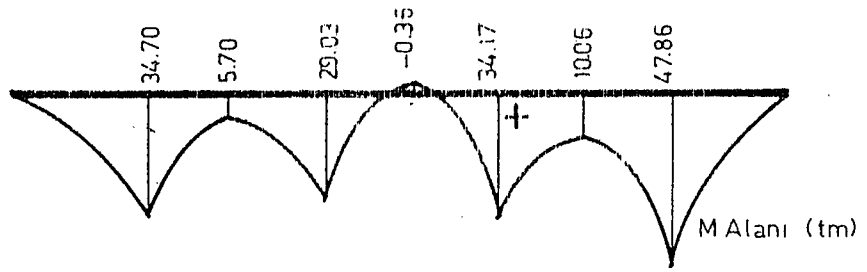
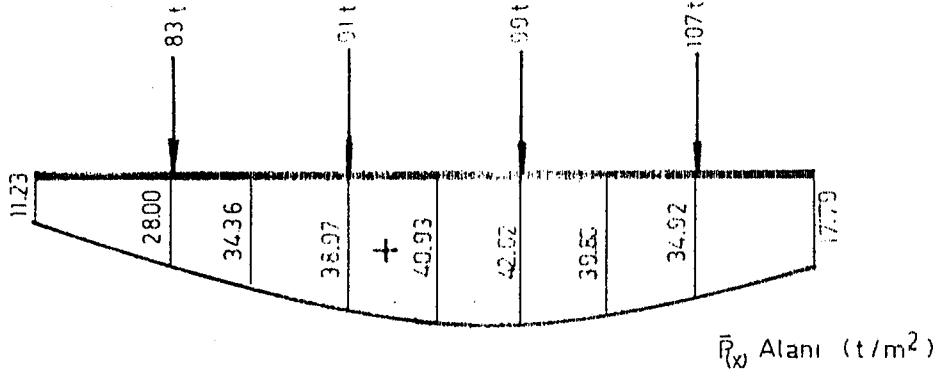
ÖRNEK 1'e AIT BİLGİSAYARDAN ALINAN SONUÇLAR

FIKTİF KUVVETLER

P1= 43.7307 (ton) P2=-127.225 (ton)
 P3= 67.4825 (ton) P4=-134.881 (ton)

KESİT (m)	Z. GERİLME (t/m ²)	MOMENT (tm)
0.00	11.52792	0.00000
0.25	13.73796	0.30327
0.50	15.94482	1.62915
0.75	18.13974	3.06352
1.00	20.30703	7.23540
1.25	22.42304	11.87636
1.50	24.45529	17.91825
1.75	26.36150	25.48794
2.00	28.06875	34.70431
2.25	29.59674	24.92502
2.50	30.92959	16.99462
2.75	32.14260	10.99670
3.00	33.27165	7.00710
3.25	34.36255	5.09740
3.50	35.41061	5.33514
3.75	36.42010	7.70576
4.00	37.37390	12.51236
4.25	38.23896	19.57436
4.50	38.96590	29.02559
4.75	39.51519	18.16121
5.00	39.93620	9.76506
5.25	40.28756	3.06617
5.50	40.61045	0.40431
5.75	40.92047	-0.35344
6.00	41.24754	1.36001
6.25	41.55562	5.64712
6.50	41.82275	12.53636
6.75	42.00002	22.03908
7.00	42.02142	34.11604
7.25	41.83469	24.16829
7.50	41.47564	16.78434
7.75	40.99785	11.99200
8.00	40.43482	9.76159
8.25	39.80214	10.05800
8.50	39.09778	12.84167
8.75	38.30230	10.06049
9.00	37.37924	25.68051
9.25	36.27540	35.64384
9.50	34.92129	47.06507
9.75	33.26276	19.91712
10.00	31.35497	25.24704
10.25	29.26970	16.93556
10.50	27.06509	10.45206
10.75	24.78648	5.66133
11.00	22.46744	2.41075
11.25	20.13069	0.50030
11.50	17.70915	0.00000

ÖRNEK: 1'e ait moment kesme kuvveti ve zemin gerilmesi diyagramları.



ÖRNEK 2'ye AIT BİLGİSAYARDAN ALINAN SONUÇLAR

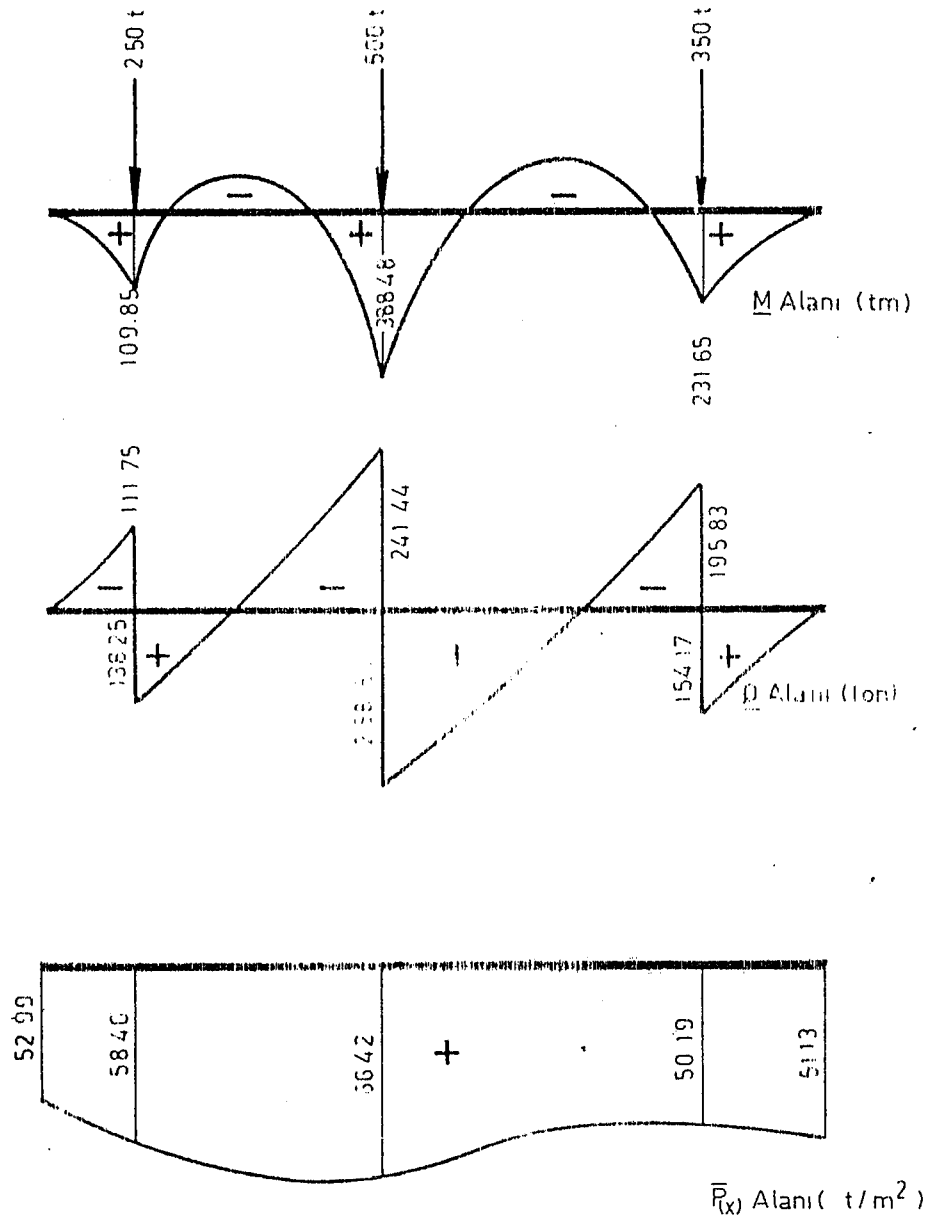
FIKTİF KUVVETLER

P1= 336.957 (ton)
P3= 325.158 (ton)

P2=-119.428 (ton)
P4=-20.4152 (ton)

KESİT (m)	Z. GERİLME (t/m ²)	MOMENT (tm)
0.00	52.99214	0.000000
0.50	54.46707	6.60551
1.00	55.91432	26.90727
1.50	57.26196	61.26341
2.00	58.38056	109.05115
2.50	59.19503	48.03400
3.00	59.02074	1.000000
3.50	60.45365	-31.05973
4.00	61.18405	-48.01236
4.50	62.07905	-49.66554
5.00	63.14680	-35.79514
5.50	64.33500	-6.13511
6.00	65.54176	39.64073
6.50	66.64271	101.73070
7.00	67.29074	180.50000
7.50	67.35101	276.00000
8.00	66.42129	388.40440
8.50	64.25933	267.46130
9.00	61.14613	162.40320
9.50	57.45341	72.77314
10.00	53.49090	-2.56584
10.50	49.54953	-64.53650
11.00	45.82408	-114.11520
11.50	42.50071	-152.22910
12.00	39.71211	-179.70670
12.50	37.55654	-197.24310
13.00	36.09622	-205.37500
13.50	35.36004	-204.46930
14.00	35.34483	-194.70770
14.50	36.01607	-176.00000
15.00	37.40781	-140.00000
15.50	39.12224	-111.00000
16.00	41.32834	-64.74386
16.50	43.76051	-7.65139
17.00	46.21655	68.38106
17.50	48.45549	139.96170
18.00	50.19554	231.65110
18.50	51.21514	160.00000
19.00	51.66204	102.00000
19.50	51.74005	57.00125
20.00	51.61132	25.65149
20.50	51.38718	6.40253
21.00	51.13661	-0.00002

ÖRNEK: 2'ye ait zemin gerilmesi, moment ve kesme kuvveti alanları,



B Ö L Ü M : III

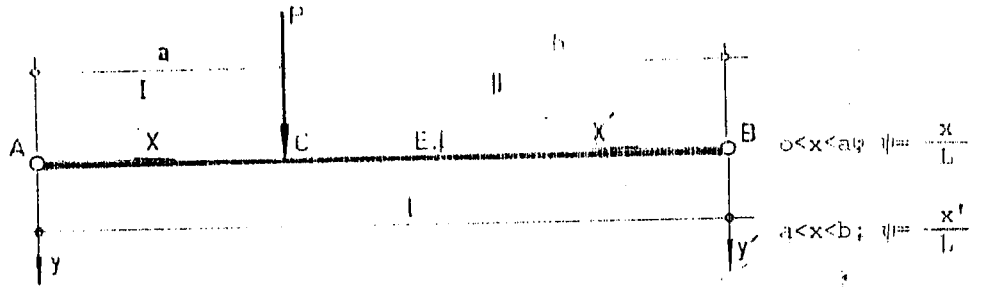
III-1 Gerçek Çözüm:

Buraya kadar anlatılan bölümlerde elastik zemine oturan kiriş differansiyel denkleminin homojen çözümü anlatılmış ve çeşitli araştırmaların verdikleri özel çözümler araştırılmıştır. Bütün bu metodlarda sonsuz uzunlukta bir kirişten sonlu uzunlukta bir parçanın çıkartılması ana prensiptir.

Bundan sonra anlatılacak metotta kiriş "sonlu kirişin kabul edilmiş ve elastik eğrinin denklemi buna göre çıkartılmıştır. Denklem sabitlerini azaltmak için iki ayrı koordinat sistemi seçilmiştir (Şekil:19).

Kiriş üzerinde tekil P kuvveti ve moment olması halleri ayrı ayrı incelenerek denklem sistemlerinin çözümü verilmiştir.

III-1-1 Sonlu Kiriş Üzerinde Tekil P Kuvvetinin Olması Durumu.



Şekil:19. Kiriş Üzerinde Tekil Kuvvetin Olması Hali ve Koordinat Toplamının Kabulü.

Sınır şartları yazılırsa:

- 1) $x=0$ da $M=0$; $Q=0$
- 2) $x=l$ da $M=0$; $Q=0$
- 3) $x=a$, $x \neq b$ de $y_I = y_{II}$ ve $y'_I = y'_{II}$
- 4) $x=a$, $x \neq b$ de $M_I = M_{II}$ yani $y''_I - y''_{II} = 0$
- 5) $x=a$, $x \neq b$ de $Q_I + Q_{II} = P$ olur.

Kiriş e ait differansiyel denklemin homojen çözümü aşağıdaki gibi yazılabilir

$$y(x) = A_1 \cos \psi \operatorname{ch} \psi + A_2 \cos \psi \operatorname{sh} \psi + A_3 \sin \psi \operatorname{ch} \psi + A_4 \sin \psi \operatorname{sh} \psi \dots \dots \dots (18a)$$

Bir numaralı sınır şartı dikkate alınarak:

$$A_I = 0, \quad A_{II} = 0, \quad B_I = D_I, \quad B_{II} = C_{II} \quad \text{bulunur.}$$

Üç numaralı sınır şartı dikkate alınarak:

$$B_I (\operatorname{sh} \psi_A \cdot \cos \psi_A + \operatorname{ch} \psi_A \cdot \sin \psi_A) + D_I (\operatorname{ch} \psi_A \cdot \cos \psi_A) + B_{II} (\operatorname{sh} \psi'_B + \cos \psi'_B + \operatorname{ch} \psi'_B \cdot \sin \psi'_B) + D_{II} (\operatorname{ch} \psi'_B \cdot \cos \psi'_B) \dots \dots \dots (43)$$

Ayrıca:

$$-B_I (2 \operatorname{ch} \psi_A \cdot \cos \psi_A) - D_I (\operatorname{sh} \psi_A \cdot \cos \psi_A - \operatorname{ch} \psi_A \cdot \sin \psi_A) = B_{II} (2 \cdot \operatorname{ch} \psi'_B \cdot \cos \psi'_B) + D_{II} (\operatorname{sh} \psi'_B \cdot \cos \psi'_B - \operatorname{ch} \psi'_B \cdot \sin \psi'_B) \dots \dots \dots (44)$$

Dört numaralı sınır şartı kullanılarak:

$$B_I (\operatorname{sh} \psi_A \cdot \cos \psi_A - \operatorname{ch} \psi_A \cdot \sin \psi_A) - D_I (\operatorname{ch} \psi_A \cdot \sin \psi_A) = B_{II} (\operatorname{sh} \psi'_B \cdot \cos \psi'_B - \operatorname{ch} \psi'_B \cdot \sin \psi'_B) - D_{II} (\operatorname{sh} \psi'_B \cdot \sin \psi'_B) \dots \dots \dots (45)$$

Beş numaralı sınır şartından da :

$$B_I (2 \operatorname{sh} \psi_A \sin \psi_A) + D_I (\operatorname{sh} \psi_A \cdot \cos \psi_A + \operatorname{ch} \psi_A \cdot \sin \psi_A) + B_{II} (2 \operatorname{sh} \psi'_B \cdot \sin \psi'_B) + D_{II} (\operatorname{sh} \psi'_B \cdot \cos \psi'_B + \operatorname{ch} \psi'_B \cdot \sin \psi'_B) = P \dots \dots \dots (46)$$

Ayrıca:

$$-EI y'''(x) = Q \quad \text{olduğu dikkate alınıp (43), (44), (45), (46) denklemleri matris notasyonunda yazılırsa:$$

ris notasyonunda yazılırsa:

$$\begin{bmatrix}
 \text{sh}\psi_a \text{Cos}\psi_a + \text{ch}\psi_a \text{Sin}\psi_a & \text{ch}\psi_a \text{Cos}\psi_a & -\text{sh}\psi_b \text{Cos}\psi_b' - \text{ch}\psi_b' \text{Sin}\psi_b' & -\text{ch}\psi_b' \text{Cos}\psi_b' & 0 \\
 -2\text{ch}\psi_a \text{Cos}\psi_a & -\text{ch}\psi_a \text{Cos}\psi_a + \text{sh}\psi_a \text{Sin}\psi_a & -2\text{ch}\psi_b' \text{Cos}\psi_b' & -\text{ch}\psi_b' \text{Cos}\psi_b' + \text{ch}\psi_b' \text{Sin}\psi_b' & 0 \\
 2\text{sh}\psi_a \text{Cos}\psi_a - \text{ch}\psi_a \text{Sin}\psi_a & -\text{sh}\psi_a \text{Sin}\psi_a & -\text{sh}\psi_b \text{Cos}\psi_b' + \text{ch}\psi_b' \text{Sin}\psi_b' & \text{ch}\psi_b' \text{Sin}\psi_b' & 0 \\
 2\text{sh}\psi_a \text{Sin}\psi_a & \text{sh}\psi_a \text{Cos}\psi_a - \text{ch}\psi_a \text{Sin}\psi_a & 2\text{sh}\psi_b \text{Sin}\psi_b' & \text{sh}\psi_b \text{Cos}\psi_b' + \text{ch}\psi_b' \text{Sin}\psi_b' & \frac{PL^3}{2.EI}
 \end{bmatrix}
 \begin{bmatrix}
 B_I \\
 F_I \\
 B_{II} \\
 D_{II}
 \end{bmatrix}
 =
 \begin{bmatrix}
 0 \\
 0 \\
 0 \\
 \frac{PL^3}{2.EI}
 \end{bmatrix}$$

..... (47)

$$L=4\sqrt{\frac{C.B}{4.E.I}} \text{ olmak üzere;}$$

III-1-1-1 Değerler: İntegralde L=1, a=0, b=1 (47)

$$y(x) = \frac{1.1^3}{4.E.I} \xi_{yp} \dots\dots\dots (48)$$

$$\xi_{yp} = \frac{1}{(1.1)^3} \cdot \frac{1}{sh^2 L.1 - Sin^2 L.1} \cdot [2.chL.x.CosL.x(shL.1.CosL.a.CosL.b$$

$$-SinL.1.chL.a.CosL.b) + (chL.x.SinL.x - shL.x.CosL.x) \cdot (shL.1(SinL.a.chL.b - CosLa.shL.b) - SinL.1(shL.a.CosL.b - chLa.SinL.b))$$

$$\theta'(x) = \frac{P.1^2}{2.E.I} \xi_{\theta p} \dots\dots\dots (49)$$

$$\xi_{\theta p} = \frac{1}{(L.1)^2} \cdot \frac{1}{sh^2 L.1 - Sin^2 L.1} \cdot [chL.x.CosL.x(shL.1(SinL.a.CosL.b$$

$$-CosL.a.shL.b) + SinL.1(shL.a.CosL.b - chL.a.SinL.b) - (chLx.SinLx - shLx.CosLx) \cdot (shL.1.CosLa.chLb - SinL.1.chLa.CosL.b)$$

$$MQ(x) = P.1. \xi_{MP} \dots\dots\dots (50)$$

$$\xi_{MP} = \frac{1}{(L.1)} \cdot \frac{1}{sh^2 L.1 - Sin^2 L.1} \cdot [chLx.SinLx(shL.1.CosLa.chLb - Si$$

$$-SinL.1.chLa.CosLb) + (chL.x.SinLx - shL.x.CosLx) \cdot (shL.1(SinLa.chLb - CosLa.shLb) - SinL.1(shLa.CosLb - chLa.SinLb)$$

$$Q(x) = P. \xi_{QP} \dots\dots\dots (51)$$

$$\xi_{QP} = \frac{1}{sh^2 L.1 - Sin^2 L.1} \cdot [chLx.SinLx - shLx.CosLx)(shL.1.CosL.a.chLb$$

$$-SinL.1.chLa.CosLb) + shLx.SinLx (shL.1(SinLa.chLb - CosLashLb) + SinL.1(shLa.CosLb - chLa.SinL.b)$$

Tekil yükten gelen tesir çizgilerini elde etmek için giriş üzerinde 1 tonluk yük gezdirilir. Yukarıdaki bağıntılarda P=1 ton konursa:

$$-y(x) = \frac{l^3}{4.E.I} \xi_{yp} \quad \dots \dots \dots (52)$$

$$\theta(x) = \frac{l^2}{2.E.I} \xi_{\theta P} \quad \dots \dots \dots (53)$$

$$M(x) = P.l \xi_{MP} \quad \dots \dots \dots (54)$$

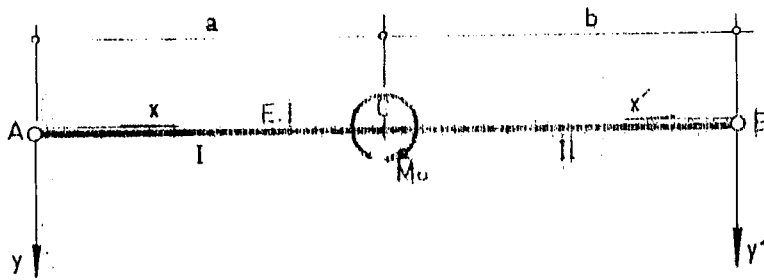
$$Q(x) = F_{QP} \quad \dots \dots \dots (55) \quad \text{olde edilir.}$$

Üzerinde sadece tekil yükler olan bir problemi çözümü için (47) denklem sistemi çözülür ve B_I, D_I, B_{II}, D_{II} katsayıları bulunur. Statik etkileri hesaplamak için Şekil 19'dan da açıkça anlaşılacağı gibi \overline{AC} arasında B_I, D_I katsayıları \overline{CB} arası için de B_{II}, D_{II} katsayıları kullanılır. \overline{AC} parçasında x, y koordinat takımı \overline{CB} arasında x', y' koordinat takımı kullanılır. Ancak bu yolla çözüm uzun ve yorucudur. Bu nedenle bilgisayarlardan faydalanmak zorunlu olur.

Pratikteki mühendisler için bilgisayardan faydalanmak her zaman mümkün olmayabilir. Bilgisayardan faydalanma imkanı olmayan uygulayıcılar için tesir çizgilerinden faydalanmak büyük kolaylık sağlar. Bu nedenle son bölümde tesir çizgileri L.1'ye bağlı olarak verilmiştir.

Yukarıda anlatılan çözümler için BASIC dilinde yazılan bilgisayar programlarını bundan sonraki bölümde verilmiştir. Bilgisayar programının kullanılışı ve Data-ların verilmesi III-2-2'de verildiği gibidir. Ayrıca programın baştafında da açıklama yapılmıştır.

III-1-2 Sonlu Kiriş Üzerinde Herhangi Bir Noktada M_0 Momentinin Olması Hali:



Şekil: 20. Kiriş Üzerinde Herhangi Bir Noktada M_0 Momentinin Olması Hali.

Sınır şartları yazılırsa:

- 1) $x = 0$ da $M = 0$, $Q = 0$
- 2) $x' = 0$ da $M = 0$, $Q = 0$
- 3) $x = a$ ve $x' = b$ için $y_I' = -y_{II}'$
- 4) $x = a$ ve $x' = b$ için $y_I'' = y_{II}''$ ve

$$-M_I + M_{II} = M_0 \text{ yani } -y_I'' + y_{II}'' = \frac{M_0}{EI}$$

- 5) $x = a$ ve $x' = b$ için $Q_I + Q_{II} = 0$ yani $y_I''' + y_{II}''' = 0$

Ayrıca,

$$\psi = \frac{x}{L} \text{ ve } \psi' = \frac{x'}{L} \text{ olsun:}$$

1.ve 2. sınır şartlarından;

$$A_I = 0 \text{ , } A_{II} = 0$$

$$B_I = C_I \text{ , } B_{II} = B_{III} \text{ bulunur.}$$

3. sınır şartından:

$$2B_I(\text{ch}\psi_a \text{Cos}\psi_a) + D_I(\text{sh}\psi_a \text{Cos}\psi_a - \text{ch}\psi_a \text{Sin}\psi_a) + 2B_{II}(\text{ch}\psi'_b \text{Cos}\psi'_b)$$

$$+ D_{II}(\text{sh}\psi'_b \text{Cos}\psi'_b - \text{ch}\psi'_b \text{Sin}\psi'_b) = 0 \text{ (51)}$$

ve

$$B_I(\text{sh}\psi_a \text{Cos}\psi_a + \text{ch}\psi_a \text{Sin}\psi_a) + D_I(\text{ch}\psi_a \text{Cos}\psi_a) - B_{II}(\text{sh}\psi'_b \text{Cos}\psi'_b + \text{ch}\psi'_b \text{Sin}\psi'_b)$$

$$- D_{II}(\text{ch}\psi'_b \text{Cos}\psi'_b) = 0 \text{ (52)}$$

4. Sınır şartından:

$$B_I(\text{sh}\psi_a \text{Cos}\psi_a - \text{ch}\psi_a \text{Sin}\psi_a) - D_I(\text{sh}\psi_a \text{Sin}\psi_a) + B_{II}(\text{sh}\psi'_b \text{Cos}\psi'_b - \text{ch}\psi'_b \text{Sin}\psi'_b)$$

$$- D_{II}(\text{sh}\psi'_b \text{Sin}\psi'_b) = \frac{M_0 L^2}{2.EI} \text{ (53)}$$

Nihayet 5. sınır şartından

$$2B_I(\text{sh}\psi_a \text{Sin}\psi_a) - D_I(\text{sh}\psi_a \text{Cos}\psi_a + \text{ch}\psi_a \text{Sin}\psi_a) - 2B_{II}(\text{sh}\psi'_b \text{Sin}\psi'_b)$$

$$- D_{II}(\text{sh}\psi'_b \text{Cos}\psi'_b - \text{ch}\psi'_b \text{Sin}\psi'_b) = 0 \text{ (54)}$$

bulunur.

55

$$\begin{bmatrix}
 2(\text{ch}\psi_a \text{Cos}\psi_a) & \text{sh}\psi_a \text{Cos}\psi_a - \text{ch}\psi_a \text{Sin}\psi_a & 2\text{ch}\psi'_b \text{Cos}\psi'_b & \text{sh}\psi'_b \text{Cos}\psi'_b - \text{ch}\psi'_b \text{Sin}\psi'_b \\
 \text{sh}\psi_a \text{Cos}\psi_a & \text{ch}\psi_a \text{Sin}\psi_a & -\text{sh}\psi'_b \text{Cos}\psi'_b - \text{ch}\psi'_b \text{Sin}\psi'_b & -\text{ch}\psi'_b \text{Cos}\psi'_b \\
 -2\text{sh}\psi_a \text{Sin}\psi_a & -\text{sh}\psi_a \text{Cos}\psi_a - \text{ch}\psi_a \text{Sin}\psi_a & -2\text{sh}\psi'_b \text{Sin}\psi'_b & -\text{sh}\psi'_b \text{Cos}\psi'_b + \text{ch}\psi'_b \text{Sin}\psi'_b \\
 \text{sh}\psi_a \text{Cos}\psi_a - \text{ch}\psi_a \text{Sin}\psi_a & -\text{sh}\psi_a \text{Sin}\psi_a & \text{sh}\psi'_b \text{Cos}\psi'_b - \text{ch}\psi'_b \text{Sin}\psi'_b & -\text{sh}\psi'_b \text{Sin}\psi'_b
 \end{bmatrix}
 \begin{bmatrix}
 B_I \\
 D_I \\
 D_{II} \\
 B_{II}
 \end{bmatrix}
 =
 \begin{bmatrix}
 0 \\
 0 \\
 0 \\
 \frac{M_o L^2}{2E.I}
 \end{bmatrix}$$

..... (55)

$$L = 4 \sqrt{\frac{C.B}{4.E.I}}$$

Bu dört denklemde bilinmeyen B_I, B_{II}, D_I, D_{II} sabitleridir. Yukarıdaki denklemleri matris notasyonuunda yararlanılarak katsayılar elde edilebilir.

III-1-3 Denklem Sisteminin Kapalı Çözümü (8)

Çökmeler:

$$y(x) = -\frac{M_0 \cdot l^2}{2 \cdot E \cdot I} \xi_{yM} \dots \dots \dots (56)$$

$$\xi_{yM} = \frac{1}{(L \cdot l)^2} \cdot \frac{1}{sh^2 L \cdot l - Sin^2 L \cdot l} \cdot chL \cdot x \cdot CosL \cdot x (shL \cdot l (shL \cdot b \cdot SinLa + shL \cdot b \cdot CosLa) + shL \cdot l (shL \cdot a \cdot CosL \cdot b + chL \cdot a \cdot SinL \cdot b) - (chL \cdot x \cdot SinL \cdot x + shL \cdot x \cdot CosL \cdot x) (SinL \cdot l \cdot CosL \cdot b \cdot chL \cdot a + shL \cdot l \cdot chL \cdot b \cdot CosL \cdot a))$$

Dönmeler:

$$\theta(x) = \frac{M_0 \cdot l}{2 \cdot E \cdot I} \xi_{\theta M} \dots \dots \dots (57)$$

$$\xi_{\theta M} = \frac{1}{(L \cdot l)} \cdot \frac{1}{sh^2 L \cdot l - Sin^2 L \cdot l} \cdot 2 \cdot chL \cdot x \cdot CosL \cdot x (SinL \cdot l \cdot CosL \cdot b \cdot chL \cdot a + shL \cdot l \cdot chL \cdot b \cdot CosL \cdot a) + (chL \cdot x \cdot SinL \cdot x - shL \cdot x \cdot CosL \cdot x) shL \cdot l (chL \cdot b \cdot SinL \cdot a - shL \cdot b \cdot CosL \cdot a) + SinL \cdot l (shL \cdot a \cdot CosL \cdot b + chL \cdot a \cdot SinL \cdot b)$$

Moment:

$$M(x) = -M_0 \cdot \xi_{MM} \dots \dots \dots (58)$$

$$\xi_{MM} = \frac{1}{sh^2 L \cdot l - Sin^2 L \cdot l} \cdot shL \cdot x \cdot SinL \cdot x (shL \cdot l (chL \cdot b \cdot SinLa + shLb \cdot CosLa) + SinL \cdot l (shLa \cdot CosLb + chLa \cdot SinLb) - (chL \cdot x \cdot SinL \cdot x - chLx \cdot CosLx) (SinL \cdot l \cdot CosLb \cdot chLa + shL \cdot l \cdot chLb \cdot CosLa))$$

Kesme kuvveti:

$$Q(x) = -\frac{M_0}{l} \cdot \xi_{QM} \dots \dots \dots (59)$$

Örnek: Üzerinde tane tekil P kuvveti bulunan bir kirişte çökme, moment ve kesme kuvveti diyagramını isetorsin.

- $L = \sqrt[4]{\frac{4 \cdot P \cdot l^3}{4 \cdot E \cdot I}}$ ve L.1 hesaplanır.
- L.1'e bağlı olarak hangi etki aranıyorsa ona ait tablo seçilir.
- P_i kuvvetinin yeri x_i/l den hesaplayınız.
- SeSeçilen tesir çizgisi tablosunun 1. stunundan x_i/l değeri bulunur.
- Birinci satırdan kesitin yeri tesbit edilir.
- d şikkında bulunan x_i/l yatayda e'de bulunan stun düşeyde uzatılır kesiş-
tikleri yerden tesir çizgisi oordinatı okunur.

Çökme hesaplanmak isteniyorsa.

$$y(x) = \frac{1^3}{4 \cdot E \cdot I} \sum_1^n P_i \cdot (\xi_{yp})^i$$

Moment için:

$$M(x) = 1 \cdot \sum_1^n P_i \cdot (\xi_{MP})^i$$

Kesme kuvveti için:

$$Q(x) = \sum_1^n P_i \cdot (\xi_{QP})^i \quad \text{hesaplanır.}$$

Örnek: Üzerinde tane tekil P kuvveti bulunan bir kirişte çökme, moment ve kesme kuvveti diyagramını inşetensin.

- $L = \sqrt[4]{\frac{P \cdot l^3}{4 \cdot E \cdot I}}$ ve $L \cdot l$ hesaplanır.
- $L \cdot l$ 'e bağlı olarak hangi etki aranıyorsa ona ait tablo seçilir.
- P_i kuvvetinin yeri x_i/l den hesaplayınız.
- Seçilen tesir çizgisi tablosunun 1. stumundan x_i/l değeri bulunur.
- Birinci satırdan kesitin yeri tesbit edilir.
- d şikkında bulunan x_i/l yatayda e'de bulunan stun düşeyde uzatılır kesiştikleri yerden tesir çizgisi ordinatı okunur.

Çökme hesaplanmak isteniyorsa.

$$y(x) = \frac{1}{4 \cdot E \cdot I} \sum_{i=1}^n P_i \cdot (\xi_{yp})^4$$

Moment için:

$$M(x) = 1 \cdot \sum_{i=1}^n P_i \cdot (\xi_{MP})^3$$

Kesme kuvveti için:

$$Q(x) = \sum_{i=1}^n P_i \cdot (\xi_{QP})^2 \quad \text{hesaplanır.}$$

```

10 REM KUVVETTEN DOLAYI COKME
20 OPEN "pr1" AS FILE 1
30 ; #1 CHR$(29%)
40 ; #1
50 DEF FNS(X)=(EXP(X)-EXP(-X))/2
60 DEF FNC(X)=(EXP(X)+(EXP(-X)))/2
70 FOR L=5 TO 10 STEP .5
80 PRINT #1 L
90 PRINT #1
100 PRINT #1
110 PRINT #1
120 PRINT #1 "          0.0      0.1      0.2      0.3      0.4      0.5      0.6      0.7      0.8
1.0 "
130 PRINT #1
140 FOR M=0 TO 1 STEP .1
150 PRINT #1 USING "#.#" " M;
160 FOR N=0 TO 1 STEP .1
170 IF N(M) GOTO 250
180 K=N
190 B=M*L
200 A=L*(1-M)
210 N=ABS(N-1)
220 X=N*L
230 M=K
240 GOTO 280
250 A=M*L
260 B=L*(1-M)
270 X=N*L
280 K=1/((FNS(L))^2-(SIN(L))^2)
290 K1=2*FNC(X)*COS(X)
300 K2=FNS(L)*COS(A)*FNC(B)-SIN(L)*FNC(A)*COS(B)
310 K3=FNC(X)*SIN(X)+FNS(X)*COS(X)
320 K4=FNS(L)*(SIN(A)*FNC(B)-COS(A)*FNS(B))
330 K5=SIN(L)*(FNS(A)*COS(B)-FNC(A)*SIN(B))
340 Y=(1/(L^3))*K*((K1+K2)+K3*(K4+K5))
350 PRINT #1 USING "###.####" " Y;
360 NEXT N
370 NEXT M
380 PRINT #1
390 PRINT #1
400 PRINT #1
410 NEXT L

```

```

10 REM KUVVETDEN DOLAYI KESME KUVVETI
20 OPEN "pr:" AS FILE 1
30 : #1 CHR$(29X)
40 : #1
50 P=10
60 DEF FNS(X)=(EXP(X)-EXP(-X))/2
70 DEF FNC(X)=(EXP(X)+EXP(-X))/2
80 FOR L=.8 TO .5 STEP .2
90 PRINT #1 L
100 PRINT #1
110 PRINT #1
120 PRINT #1
130 PRINT #1 "          0.8      0.1      0.2      0.3      0.4      0.5      0.6      0.7      0.8
      1.0 "
140 PRINT #1
150 FOR M=0 TO 1 STEP .1
160 PRINT #1 USING "#.#" " M;
170 FOR N=0 TO 1 STEP .1
180 IF N<M GOTO 230
190 A=M*L
200 B=L*(1-M)
210 X=M*L
220 GOTO 190
230 K=N
240 B=-M*L
250 A=-L*(1-M)
260 N=ABS(N-1)
270 X=-M*L
280 N=K
290 K=1/((FNS(L))^2-(SIN(L))^2)
300 S1=FNC(X)*SIN(X)+FNS(X)*COS(X)
310 S2=FNS(L)*COS(A)*FNC(B)-SIN(L)*FNC(A)*COS(B)
320 S3=FNS(X)*SIN(X)
330 S4=FNS(L)*(SIN(A)*FNC(B)-COS(A)*FNS(B))
340 S5=SIN(L)*(FNS(A)*COS(B)-FNC(A)*SIN(B))
350 Q1=K*(S1+S2+S3*(S4+S5))
360 PRINT #1 USING "###.####" * Q1;
370 IF N=M THEN PRINT #1
380 IF N<M GOTO 550
390 R=N
400 B=-M*L
410 A=-L*(1-M)
420 N=ABS(N-1)
430 X=-M*L
440 N=R
450 K=1/((FNS(L))^2-(SIN(L))^2)
460 S1=FNC(X)*SIN(X)+FNS(X)*COS(X)
470 S2=FNS(L)*COS(A)*FNC(B)-SIN(L)*FNC(A)*COS(B)
480 S3=FNS(X)*SIN(X)
490 S4=FNS(L)*(SIN(A)*FNC(B)-COS(A)*FNS(B))
500 S5=SIN(L)*(FNS(A)*COS(B)-FNC(A)*SIN(B))
510 Q1=K*(S1+S2+S3*(S4+S5))
520 PRINT #1 TAB(P);
530 PRINT #1 USING "###.####" * Q1;
540 P=P+11
550 NEXT N
560 NEXT M
570 PRINT #1
580 PRINT #1
590 PRINT #1
600 P=10
610 NEXT L

```

```

10 REM KUVVETDEN DOLAYI MOMENT
20 OPEN "pr1" AS FILE 1
30 ; #1 CHR$(29X)
40 ; #1
50 DEF FNS(X)=(EXP(X)-EXP(-X))/2
60 DEF FNC(X)=(EXP(X)+EXP(-X))/2
70 FOR L=12 TO 50 STEP 2
80 PRINT #1 L
90 PRINT #1
100 PRINT #1
110 PRINT #1
120 PRINT #1 "          0.0      0.1      0.2      0.3      0.4      0.5      0.6      0.7      0.8
      1.0 "
130 PRINT #1
140 FOR M=0 TO 1 STEP .1
150 PRINT #1 USING "#.#" " M;
160 FOR N=0 TO 1 STEP .1
170 IF N(=M GOTO 250
180 K=N
190 B=#*L
200 A=L*(1-M)
210 N=ABS(N-1)
220 X=#*L
230 N=K
240 GOTO 280
250 A=#*L
260 B=L*(1-M)
270 X=#*L
280 K=1/((FNS(L))^2-(SIN(L))^2)
290 D1=2*FNS(X)*SIN(X)
300 D2=FNS(L)*COS(A)*FNC(B)-SIN(L)*FNC(A)*COS(B)
310 D3=FNC(X)*SIN(X)-FNS(X)*COS(X)
320 D4=FNS(L)*(SIN(A)*FNC(B)-COS(A)*FNS(B))
330 D5=SIN(L)*(FNS(A)*COS(B)-FNC(A)*SIN(B))
340 P=(1/(2*L))*(K*(D1*D2+D3*(D4+D5))
350 PRINT #1 USING "###.##### " P;
360 NEXT N
370 NEXT M
380 PRINT #1
390 PRINT #1
400 PRINT #1
410 NEXT L

```



```

10 REM MOMENTTEN DOLAYI COKME
20 OPEN "pr:" AS FILE 1
30 : #1 CHR$(29%)
40 : #1
50 DEF FNS(X)=(EXP(X)-EXP(-X))/2
60 DEF FNC(X)=(EXP(X)+EXP(-X))/2
70 FOR L=.8 TO 10 STEP .2
80 PRINT #1 L
90 PRINT #1
100 PRINT #1
110 PRINT #1
120 PRINT #1 "          0.0      0.1      0.2      0.3      0.4      0.5      0.6      0.7      0.8
      1.0"
130 PRINT #1
140 FOR M=0 TO 1 STEP .1
150 PRINT #1 USING "0.0" " M;
160 FOR N=0 TO 1 STEP .1
170 IF N<=M GOTO 250
180 K=N
190 B=M#L
200 A=L*(1-M)
210 N=ABS(N-1)
220 X=N#L
230 N=K
240 GOTO 280
250 A=M#L
260 B=L*(1-M)
270 X=M#L
280 K=1/((FNS(L))^2-(SIN(L))^2)
290 L1=FNC(X)*COS(X)
300 L2=FNS(L)*(FNC(B)*SIN(A)+FNS(B)*COS(A))
310 L3=SIN(L)*(FNS(A)*COS(B)+FNC(A)*SIN(B))
320 L4=FNC(X)*SIN(X)+FNS(X)*COS(X)
330 L5=SIN(L)*COS(B)*FNC(A)+FNS(L)*FNC(B)*COS(A)
340 Y1=(1/(L^2))*K*(L1*(L2+L3)-L4+L5)
350 PRINT #1 USING "###.####" " Y1;
360 NEXT N
370 NEXT M
380 PRINT #1
390 PRINT #1
400 PRINT #1
410 NEXT L

```

```

10 REM MOMENTTEN DOLAYI KESME KUVVETI
20 OPEN "pr1" AS FILE 1
30 ; #1 CHR$(29%)
40 ; #1
50 DEF FNS(X)=(EXP(X)-EXP(-X))/2
60 DEF FNC(X)=(EXP(X)+EXP(-X))/2
70 FOR L=7.5 TO 10 STEP .5
80 PRINT #1 L
90 PRINT #1
100 PRINT #1
110 PRINT #1
120 PRINT #1 "          0.0      0.1      0.2      0.3      0.4      0.5      0.6      0.7      0.8
1.0 "
130 PRINT #1
140 FOR M=0 TO 1 STEP .1
150 PRINT #1 USING "#.#" " M;
160 FOR N=0 TO 1 STEP .1
170 IF N(M) GOTO 250
180 K=N
190 B=M*L
200 A=L*(1-M)
210 N=ABS(N-1)
220 X=N*L
230 N=K
240 GOTO 280
250 A=M*L
260 B=L*(1-M)
270 X=N*L
280 K=1/((FNS(L))^2-(SIN(L))^2)
290 K1=FNC(X)*SIN(X)+FNS(X)*COS(X)
300 K2=FNS(L)*(FNC(B)*SIN(A)+FNS(B)*COS(A))
310 K3=SIN(L)*(FNS(A)*COS(B)+FNC(A)*SIN(B))
320 K4=2*FNS(X)*SIN(X)*(SIN(L)*COS(B)*FNC(A)+FNS(L)*FNC(B)*COS(A))
330 D=L*K*(K1*(K2+K3)-K4)
340 PRINT #1 USING "###.####" " D;
350 NEXT N
360 NEXT M
370 PRINT #1
380 PRINT #1
390 PRINT #1
400 NEXT L

```

B Ö L Ü M : IV

IV-1 ELASTİK KİRİŞLERİN SINIFLANDIRILMASI

Kiriş rijitliğine bağlı olarak kirişin fiktif uzunluğu L ile tariflenmiştir. Tablolarda giriş değeri $L.l$ katsayısı olarak alınmıştır. Literatürde $L.l$ 'in değişik değerleri için Kiriş tipleri belirtilmiştir. $L.l < \pi$ ise zemindeki gerilmeler hep pozitif olur. Eğer $L.l < 1$ ise kirişin uç ve orta noktadaki gerilmeler yaklaşık olarak eşit alınabilir. (9). Bu kabullerin ışığında elastik zemine oturan sürekli sonlu uzunluktaki kirişler şöyle sıralanabilir.

Kısa kiriş $L.l < \pi/4$

Orta uzunlukta kiriş $\pi/4 < L.l < \pi$

Uzun kiriş $L.l > \pi$

Ancak bu sınıflandırma kesin değildir ve araştırmacılara göre değişebilir.

Literatürde tesir çizgileri tabloları $L.l$ in 0,8 ile 8 arasındaki değerleri için verilmiştir (8). Ancak eğer $L.l > 8$ ise uygulamacı mühendis zor ve karışık denklemleri çözmek durumunda kalır. Bu zorlukları ortadan kaldırmak amacıyla tesir çizgisi tabloları genişletilerek verilmiştir.

IV-2 TESİR ÇİZGİSİ TABLOLARININ KULLANILIŞI.

IV-2-1 Tekil P Kuvvetinden Gelen Etkiler İçin.

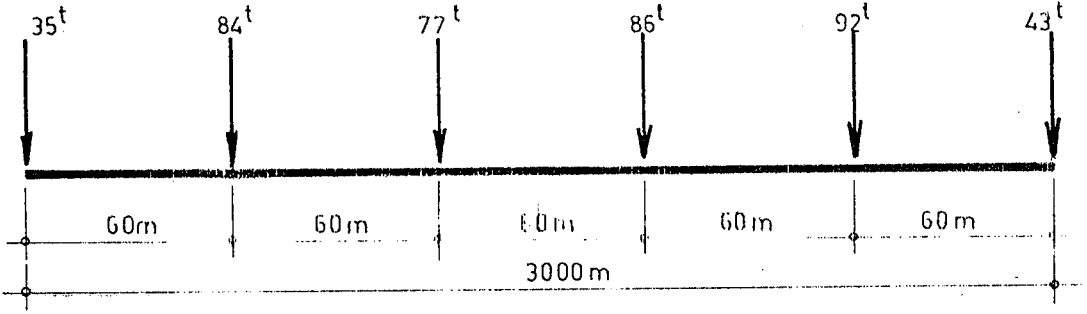
Tesir çizgisi tablolarında birinci satır, birleşim noktasında kesitler için yerini belirtir. Tablolarda kesitler kiriş boyunca eşit aralıklarda alınmıştır. Birinci satır da kuvvetin yerini belirtir. Kuvvetin yerine bağlı olarak kesitlerdeki tesir çizgisi koordinatları okunur.

a/l \ x/l	0,00	0,10	0,20	0,30	0,40	0,50	0,60	0,70	0,80	0,90	1,00
0,00											
0,10											
0,20											
0,30											
.											
.											
.											
0,80											
0,90											
1,00											

Şekil:20. Tesir Çizgisi Tablolarının Kullanılışı.

ÖRNEK:

Uzunluğu $l = 30\text{m}$ eğilme rijitliği $EI = 0,23,10^6 \text{ tm}^2$ taban genişliği $b = 1,40$ olan bir temel elâstik zemine oturmaktadır. Elastik zeminin yatak katsayısı $C = 1000 \text{ t/m}^3$ olduğuna göre 1,5,6 noktalarında $\bar{P}(x)$ gerilmelerini 2,4,7,8 noktalarında eğilme momentlerini ve 5 noktasında kesme kuvvetini hesaplayınız.



a) L.1 katsayısının hesabı.

$$L = 4 \sqrt{\frac{C \cdot B}{4 \cdot EI}} = 4 \sqrt{\frac{1400}{0,92 \times 10^6}} = 0,198 \text{ m}^{-1}$$

$$L \cdot l = 0,198 \times 30 = 5,94 \approx 6$$

$L \cdot l = 6$ tesir çizgisi tabloları kullanılacaktır.

b) Kuvvetlerin uygulanma noktaları.

$$\begin{aligned} a_1/l &= 0,0 & a_4/l &= 18/30 = 0,6 \\ a_2/l &= 6/30 = 0,2 & a_5/l &= 24/30 = 0,8 \\ a_3/l &= 12/30 = 0,4 & a_6/l &= 30/30 = 1,0 \end{aligned}$$

c) Zemin gerilmelerinin hesabı.

$$\frac{l^3}{4 \cdot EI} = \frac{30^3}{0,92 \times 10^6} = 293448 \times 10^{-6} \text{ m/t}$$

(1) noktasında $X_1/l = 0,0$

4 noktasında $x_4/l = 0,6$

L.l= 6,0 ve ξ_{MP} tablosu $x/l = 0,6$ kolonundan faydalanılarak

$$M_{4P} = 30(35.1985 - 84.5495 - 77.7289 + 6.41935 - 92.7732 - 43.10202) \cdot 10^{-6}$$

$$M_{4P} = 45,09 \text{ tm.}$$

7 noktasında $x_7/l = 0,5$

L.l= 6,0 ve ξ_{MP} tablosu $x/l = 0,5$ kolonunda faydalanılarak

$$M_{7P} = 30(-35.1170 - 84.8622 + 77.576 + 86.576 - 92.8622 - 43.1170) \cdot 10^{-6}$$

$$M_{7P} = -20,06 \text{ tm.}$$

8 noktasında $x_8/l = 0,9$

L.l= 6,0 ve ξ_{MP} tablosu $x/l = 0,9$ kolonundan faydalanılarak

$$M_{8P} = 30(35.335 - 84.56 - 77.1338 - 36.2476 + 92.8597 - 43.51646) \cdot 10^{-6} = -52,16 \text{ tm.}$$

e) Kesme kuvvetlerinin hesabı

$$Q_x = \xi_{QP}$$

5 noktasında $x_5/l = 0,8$

L.l= 6 ve ξ_{QP} tablosu $x/l = 0,8$ kolonundan yararlanılarak

$$Q_{5P} = (-35.9834 + 84.11074 + 77.38124 - 86.30670 + 92 \begin{matrix} 51468 \\ -48532 \end{matrix} - 43.17163) \cdot 10^{-6}$$

$$Q_{5P} = \begin{matrix} 40,85 \text{ t} \\ -51,15 \text{ t} \end{matrix}$$

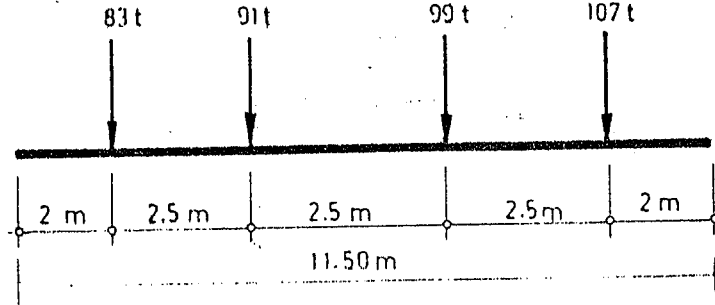
B Ö L Ü M : V- YATAK KATSAYISININ STATİK SONUÇLARA ETKİSİ

Burada aynı örnekte yatak katsayısının farklı alınması sonucu statik değerlerin büyük oranda değişmediği açıkça görülmektedir. Yatak katsayısı ilkönce $1883,39 \text{ t/m}^3$ sonra da 900.00 t/m^3 alınmıştır.

uc kesme kuv. ve uc momentler

M1=-1.19928 (tm) M2= 11.2193 (tm)
 P1= 48.8379 (ton) P2=-4.51031 (ton)

kesit	perilme(t/m ²)	moment(tm)	kesme(ton)
*****	*****	*****	*****
0.00	28.25624	-0.00054	0.00000
0.25	28.75832	0.81687	6.55672
0.50	29.26013	3.28775	13.22884
0.75	29.76099	7.44110	20.01628
1.00	30.25973	13.38563	26.91871
1.25	30.75469	20.91005	33.93545
1.50	31.24374	30.28280	41.06540
1.75	31.72428	41.45204	48.38692
2.00	32.19315	54.44540	-27.34233
2.25	32.64769	48.53973	-19.88535
2.50	33.08858	44.51129	-12.32543
2.75	33.51695	42.38537	-4.66556
3.00	33.93340	42.18661	3.09144
3.25	34.33798	43.93895	10.94289
3.50	34.73020	47.66570	18.88599
3.75	35.10900	53.38931	26.91776
4.00	35.47281	61.13169	35.03496
4.25	35.81942	70.91362	43.23392
4.50	36.14612	82.70509	-39.48763
4.75	36.45064	73.92487	-31.14057
5.00	36.73439	67.19046	-22.72392
5.25	36.99927	62.56817	-14.24421
5.50	37.24654	60.07328	-5.70562
5.75	37.47694	59.71994	2.88791
6.00	37.69056	61.52150	11.53251
6.25	37.88688	65.49014	20.22425
6.50	38.06478	71.63720	28.95905
6.75	38.22256	79.97286	37.73250
7.00	38.35788	90.50622	-52.46029
7.25	38.46894	78.49509	-43.62473
7.50	38.55795	68.69379	-34.76626
7.75	38.62765	61.11346	-25.88957
8.00	38.68016	55.75216	-16.99888
8.25	38.71701	52.61409	-8.09790
8.50	38.73906	51.70377	0.80984
8.75	38.74656	53.02009	9.72096
9.00	38.73915	56.56427	18.63210
9.25	38.71583	62.33585	27.53974
9.50	38.67499	70.33354	36.51900
9.75	38.61564	53.80490	-61.67120
10.00	38.54116	39.49668	-52.79793
10.25	38.45556	27.40440	-43.94312
10.50	38.36222	17.52337	-35.10097
10.75	38.26392	9.84800	-26.29688
11.00	38.16200	4.37298	-17.50777
11.25	38.06042	1.00000	-8.74199
11.50	37.95767	0.00001	-0.00001



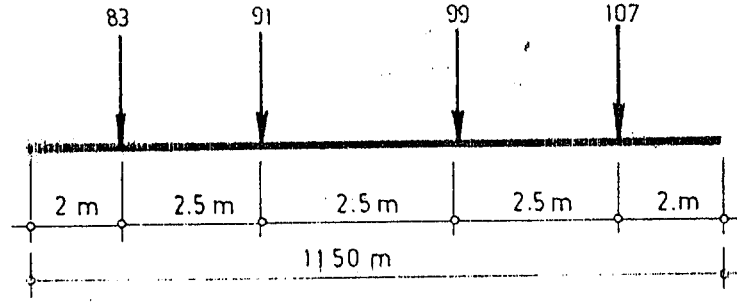
J=0.20 m⁴
 B=0.92 m

C=1883.39 t/m³

uc kesme kuv. ve uc momentler

M1=-39.0989 (tm) M2= 15.3814 (tm)
P1= 62.955 (ton) P2=-4.47867 (ton)

kesit	gerilme(t/m2)	moment(tm)	kesme(ton)
0.00	29.59108	-0.00007	0.00004
0.25	29.95205	0.85419	6.84747
0.50	30.31291	3.43071	13.77795
0.75	30.67328	7.75008	20.79137
1.00	31.03259	13.83330	27.88758
1.25	31.39003	21.70078	35.06624
1.50	31.74454	31.37320	42.32676
1.75	32.09484	42.87007	49.66840
2.00	32.43937	56.21497	-23.91005
2.25	32.77681	50.67238	-18.41006
2.50	33.10745	47.01544	-10.83324
2.75	33.43177	45.26200	-3.18112
3.00	33.75000	45.43104	4.54490
3.25	34.06212	47.54056	12.34342
3.50	34.36787	51.60066	20.21301
3.75	34.66667	57.65208	28.15211
4.00	34.95773	65.69038	36.15907
4.25	35.23990	75.73790	44.23200
4.50	35.51205	87.81168	-30.63132
4.75	35.77205	79.17734	-30.43335
5.00	36.02302	72.59992	-22.17661
5.25	36.26345	68.99375	-13.06351
5.50	36.49473	65.67874	-5.49614
5.75	36.71719	65.35001	2.92340
6.00	36.93088	67.13862	11.39311
6.25	37.13556	71.05060	19.91093
6.50	37.33070	77.09791	28.47473
6.75	37.51548	85.29158	37.08226
7.00	37.68881	95.64242	-53.26903
7.25	37.84988	83.41030	-44.58184
7.50	37.99974	73.35451	-35.85893
7.75	38.13975	65.48364	-27.10273
8.00	38.27096	59.00574	-18.31534
8.25	38.39414	55.30071	-9.49060
8.50	38.50976	50.97067	-0.85160
8.75	38.61798	50.04121	0.21024
9.00	38.71868	59.16832	17.10910
9.25	38.81141	64.55962	26.02521
9.50	38.89548	72.18258	142.14310
9.75	38.97046	55.29198	-63.00358
10.00	39.03800	40.64216	-54.11247
10.25	39.10000	28.83700	-45.12030
10.50	39.15836	18.00010	-36.12674
10.75	39.21418	10.17467	-27.11385
11.00	39.26861	4.52421	-18.08831
11.25	39.32242	1.13159	-9.05034
11.50	39.37604	0.00003	-0.00003



$J=0.20 \text{ m}^4$
 $B=0.92 \text{ m}$

$C=900.00 \text{ t/m}^3$

15.01.2011
 15.01.2011

S O N U Ç :

Elastik zemine oturan kirdajlı statik çözümleri büyük oranda yatak katsayısına bağlıdır. Eğer yatak katsayısı iyi tahmin edilebilirse bulunan statik sonuçlar da gerçeğe yakın olur.

Kany'nin çalışmaları dışında bir çok araştırmacı yatak katsayısını sabit olarak işlemlere batmıştır (10). Bölüm I de yatak katsayısının sabit olamayacağı açıklanmıştı. Ancak yatak katsayısının giriş boyunca değişken alınması işlemleri çok uzatmakta ve sonuç değerlerde büyük bir değişiklik yapmamaktadır. Bu nedenle yatak katsayısını sabit almak fakat değişik araştırmacıların önerdiği şekilde hesaplayıp bunların arasından ortalama bir değer seçmek uygun olur.

Ll=0.8

ϵ_{ym}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	7.42873	5.89968	4.38997	2.89810	1.42184	-0.04152	-1.49492	-2.94130	-4.38335	-5.82327	-7.26255
0.1	7.42002	5.50077	4.39087	2.89881	1.42236	-0.04119	-1.49478	-2.94135	-4.38358	-5.82369	-7.26317
0.2	7.39863	5.89812	4.39696	2.90364	1.42593	-0.03887	-1.49371	-2.94152	-4.38500	-5.82635	-7.26706
0.3	7.37077	5.88708	4.40274	2.91626	1.43539	-0.03256	-1.49055	-2.94150	-4.38811	-5.83259	-7.27643
0.4	7.34143	5.87205	4.40203	2.92987	1.45333	-0.02028	-1.48390	-2.94048	-4.39272	-5.84282	-7.29228
0.5	7.31441	5.85648	4.39790	2.93719	1.47213	0.00000	-1.47213	-2.93719	-4.39790	-5.85648	-7.31441
0.6	7.29228	5.84282	4.39272	2.94048	1.48390	0.02028	-1.45333	-2.92987	-4.40203	-5.87205	-7.34143
0.7	7.27643	5.83259	4.38811	2.94150	1.49055	0.03256	-1.43539	-2.91625	-4.40274	-5.88708	-7.37077
0.8	7.26706	5.82635	4.38500	2.94152	1.49371	0.03887	-1.42593	-2.90364	-4.39696	-5.89812	-7.39863
0.9	7.26317	5.82369	4.38358	2.94135	1.49478	0.04119	-1.42236	-2.89881	-4.39087	-5.90077	-7.42002
1.0	7.26255	5.82327	4.38335	2.94130	1.49492	0.04152	-1.42184	-2.89810	-4.38997	-5.89968	-7.42873

ϵ_{QM}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	0.54580	0.96713	1.26554	1.44238	1.49884	1.43585	1.25411	0.95407	0.53600	0.00000
0.1	0.00000	0.54562	0.96704	1.26551	1.44241	1.49890	1.43593	1.25419	0.95414	0.53604	0.00000
0.2	0.00000	0.54464	0.96633	1.26525	1.44249	1.49923	1.43639	1.25469	0.95457	0.53631	0.00000
0.3	0.00000	0.54304	0.96452	1.26433	1.44247	1.49986	1.43741	1.25584	0.95559	0.53695	0.00000
0.4	0.00000	0.54123	0.96206	1.26240	1.44197	1.50059	1.43892	1.25766	0.95727	0.53801	0.00000
0.5	0.00000	0.53948	0.95951	1.25998	1.44062	1.50098	1.44062	1.25998	0.95951	0.53948	0.00000
0.6	0.00000	0.53801	0.95727	1.25766	1.43892	1.50059	1.44197	1.26240	0.96206	0.54123	0.00000
0.7	0.00000	0.53695	0.95559	1.25584	1.43741	1.49986	1.44248	1.26433	0.96452	0.54304	0.00000
0.8	0.00000	0.53631	0.95457	1.25469	1.43639	1.49923	1.44249	1.26525	0.96633	0.54464	0.00000
0.9	0.00000	0.53604	0.95414	1.25419	1.43593	1.49890	1.44241	1.26551	0.96704	0.54562	0.00000
1.0	0.00000	0.53600	0.95407	1.25411	1.43585	1.49884	1.44238	1.26554	0.96713	0.54580	0.00000

ϵ_{MM}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	
0.0	0.00000											
0.1	-1.20000	-0.97167	-0.89499	-0.78234	-0.64592	-0.49797	-0.35015	-0.21466	-0.10327	-0.02778	0.00000	
0.2	0.00000	0.02832	-0.89502	-0.78237	-0.64597	-0.49791	-0.35017	-0.21468	-0.10329	-0.02778	0.00000	
0.3	0.00000	0.02826	0.10483	-0.89517	-0.78257	-0.64618	-0.49809	-0.35032	-0.21478	-0.10333	-0.02780	0.00000
0.4	0.00000	0.02817	0.10456	0.21701	-0.78299	-0.64664	-0.49852	-0.35066	-0.21501	-0.10345	-0.02783	0.00000
0.5	0.00000	0.02806	0.10423	0.21646	0.35269	-0.64731	-0.49918	-0.35121	-0.21538	-0.10364	-0.02789	0.00000
0.6	0.00000	0.02797	0.10391	0.21589	0.35192	0.50000	-0.49918	-0.35192	-0.21589	-0.10391	-0.02797	0.00000
0.7	0.00000	0.02789	0.10364	0.21538	0.35121	0.49918	0.64731	-0.35269	-0.21646	-0.10423	-0.02806	0.00000
0.8	0.00000	0.02783	0.10345	0.21501	0.35066	0.49852	0.64664	0.78299	-0.21701	-0.10456	-0.02817	0.00000
0.9	0.00000	0.02778	0.10329	0.21478	0.35032	0.49809	0.64618	0.78257	0.89517	-0.10483	-0.02826	0.00000
1.0	0.00000	0.02778	0.10328	0.21468	0.35017	0.49791	0.64597	0.78237	0.89502	-0.10483	-0.02826	0.00000
1.0	0.00000	0.02778	0.10327	0.21466	0.35015	0.49788	0.64594	0.78234	0.89499	0.97167	1.00000	0.00000

L.l = 1

ϵ_{ym}

X/l a/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	3.10415	2.44012	1.79541	1.16852	0.55719	-0.04130	-0.62990	-1.21152	-1.78885	-2.36407	-2.93867
0.1	3.09545	2.44121	1.79631	1.16923	0.55770	-0.04098	-0.62976	-1.21157	-1.78909	-2.36450	-2.93928
0.2	3.07410	2.43857	1.80239	1.17404	0.56125	-0.03868	-0.62871	-1.21175	-1.79050	-2.36713	-2.94314
0.3	3.04631	2.42757	1.80819	1.18663	0.57067	-0.03242	-0.62558	-1.21175	-1.79360	-2.37334	-2.95245
0.4	3.01709	2.41261	1.80748	1.20021	0.58855	-0.02020	-0.61899	-1.21076	-1.79619	-2.38351	-2.96819
0.5	2.99019	2.39710	1.80337	1.20750	0.60728	0.00000	-0.62728	-1.20750	-1.80337	-2.39710	-2.99019
0.6	2.96819	2.38351	1.79819	1.21076	0.61899	0.02020	-0.58855	-1.20021	-1.80748	-2.41261	-3.01709
0.7	2.95245	2.37334	1.79360	1.21175	0.62558	0.03242	-0.57067	-1.18663	-1.80819	-2.42757	-3.04631
0.8	2.94314	2.36713	1.79050	1.21175	0.62871	0.03868	-0.56125	-1.17404	-1.80239	-2.43857	-3.07410
0.9	2.93928	2.36450	1.78909	1.21157	0.62976	0.04098	-0.55770	-1.16922	-1.79631	-2.44121	-3.09545
1.0	2.93867	2.36407	1.78885	1.21153	0.62990	0.04131	-0.55718	-1.16851	-1.79541	-2.44012	-3.10415

ϵ_{QM}

X/l a/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	0.55410	0.97733	1.27345	1.44578	1.49716	1.42991	1.24568	0.94559	0.53028	0.00000
0.1	0.00000	0.55367	0.97711	1.27338	1.44584	1.49722	1.43010	1.24580	0.94576	0.53038	0.00000
0.2	0.00000	0.55127	0.97539	1.27275	1.44604	1.49811	1.43123	1.24725	0.94681	0.53103	0.00000
0.3	0.00000	0.54739	0.97099	1.27052	1.44601	1.49965	1.43371	1.24988	0.94929	0.53258	0.00000
0.4	0.00000	0.54297	0.96500	1.26582	1.44479	1.50144	1.43738	1.25431	0.95336	0.53517	0.00000
0.5	0.00000	0.53873	0.95880	1.25994	1.44151	1.50238	1.44151	1.25994	0.95880	0.53873	0.00000
0.6	0.00000	0.53517	0.95336	1.25431	1.43738	1.50144	1.44479	1.26582	0.96500	0.54297	0.00000
0.7	0.00000	0.53258	0.94929	1.24988	1.43371	1.49965	1.44621	1.27052	0.97099	0.54739	0.00000
0.8	0.00000	0.53103	0.94681	1.24709	1.43123	1.49811	1.44604	1.27275	0.97539	0.55127	0.00000
0.9	0.00000	0.53038	0.94576	1.24580	1.43010	1.49732	1.44584	1.27338	0.97711	0.55367	0.00000
1.0	0.00000	0.53028	0.94559	1.24568	1.42991	1.49716	1.44578	1.27345	0.97733	0.55410	0.00000

ϵ_{MM}

X/l a/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000										
0.1	-1.00000	-0.97119	-0.89354	-0.77996	-0.64298	-0.49483	-0.34750	-0.21275	-0.10222	-0.02747	0.00000
0.2	0.00000	0.02877	-0.97123	-0.89361	-0.78004	-0.64306	-0.49491	-0.34756	-0.21279	-0.10224	-0.02748
0.3	0.00000	0.02862	0.10602	-0.89398	-0.78053	-0.64357	-0.49536	-0.34791	-0.21302	-0.10236	-0.02751
0.4	0.00000	0.02840	0.10535	0.21846	-0.78154	-0.64468	-0.49640	-0.34874	-0.21358	-0.10265	-0.02759
0.5	0.00000	0.02816	0.10456	0.21712	0.35367	-0.64633	-0.49801	-0.35007	-0.21450	-0.10314	-0.02773
0.6	0.00000	0.02792	0.10379	0.21572	0.35179	0.50000	-0.50000	-0.35179	-0.21572	-0.10379	-0.02792
0.7	0.00000	0.02773	0.10314	0.21450	0.35007	0.49801	0.64633	-0.35367	-0.21712	-0.10456	-0.02816
0.8	0.00000	0.02759	0.10265	0.21358	0.34874	0.49640	0.64468	0.78154	-0.21846	-0.10535	-0.02840
0.9	0.00000	0.02748	0.10224	0.21279	0.34756	0.49491	0.64306	0.78004	0.89398	-0.10602	-0.02862
1.0	0.00000	0.02747	0.10222	0.21275	0.34750	0.49483	0.64298	0.77996	0.89354	0.97123	1.00000

ξ_{yp}

$a/l \setminus X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	1.96658	1.65712	1.35078	1.04943	0.75381	0.46382	0.17870	-0.10267	-0.38158	-0.65921	-0.93645
0.1	1.65712	1.41763	1.17806	0.93991	0.70442	0.47199	0.24248	0.01534	-0.21017	-0.43483	-0.65921
0.2	1.35078	1.17806	1.00471	0.82991	0.65466	0.47993	0.30616	0.13339	-0.03862	-0.21017	-0.38158
0.3	1.04943	0.93991	0.82991	0.71824	0.60367	0.48707	0.35946	0.25146	0.13339	0.01534	-0.10267
0.4	0.75381	0.70442	0.65466	0.60367	0.55000	0.49240	0.43182	0.36946	0.30616	0.24248	0.17870
0.5	0.46382	0.47199	0.47993	0.48707	0.49241	0.49456	0.49240	0.48707	0.47993	0.47199	0.46382
0.6	0.17870	0.24248	0.30616	0.36946	0.43182	0.49240	0.55000	0.60367	0.65466	0.70442	0.75381
0.7	-0.10267	0.01534	0.13339	0.25146	0.36946	0.48707	0.60367	0.71824	0.82991	0.93991	1.04943
0.8	-0.38158	-0.21017	-0.03862	0.13339	0.30616	0.47993	0.65466	0.82991	1.00471	1.17806	1.35078
0.9	-0.65921	-0.43483	-0.21017	0.01534	0.24248	0.47199	0.70442	0.93991	1.17806	1.41763	1.65712
1.0	-0.93645	-0.65921	-0.38158	-0.10267	0.17870	0.46382	0.75381	1.04943	1.35078	1.65712	1.96658

ξ_{MP}

$a/l \setminus X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	-0.00068	-0.12700	-0.14529	-0.14181	-0.12270	-0.09396	-0.06150	-0.03117	-0.00875	0.00000
0.1	0.00000	0.01535	-0.03792	-0.06772	-0.07824	-0.07376	-0.05958	-0.04057	-0.02113	-0.00506	0.00000
0.2	0.00000	0.01341	0.05124	0.02991	-0.01422	-0.02477	-0.02535	-0.01961	-0.01189	-0.00336	0.00000
0.3	0.00000	0.01050	0.04049	0.09759	0.04978	0.02438	0.02907	0.00143	-0.00100	-0.00056	0.00000
0.4	0.00000	0.00764	0.02990	0.06572	0.11406	0.07379	0.04373	0.02262	0.00917	0.00207	0.00000
0.5	0.00000	0.00484	0.01946	0.04404	0.07871	0.12358	0.07871	0.04404	0.01946	0.00484	0.00000
0.6	0.00000	0.00207	0.00917	0.02262	0.04373	0.07379	0.11406	0.06572	0.02990	0.00764	0.00000
0.7	0.00000	-0.00066	-0.00100	0.00143	0.00907	0.02438	0.04978	0.08769	0.04049	0.01050	0.00000
0.8	0.00000	-0.00336	-0.01189	-0.01961	-0.02536	-0.02477	-0.01422	0.00991	0.05124	0.01341	0.00000
0.9	0.00000	-0.00506	-0.02113	-0.04057	-0.05958	-0.07376	-0.07804	-0.06772	-0.03790	0.01635	0.00000
1.0	0.00000	-0.00875	-0.03117	-0.06150	-0.09396	-0.12270	-0.14181	-0.14529	-0.12700	-0.08068	0.00000

ξ_{QP}

$a/l \setminus X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000										
0.1	-1.00000	-0.62434	-0.31256	-0.06380	0.12306	0.24922	0.31576	0.32359	0.27336	0.16544	0.00000
0.2	0.00000	0.31879	-0.68121	-0.41210	-0.19255	-0.02211	0.09980	0.17383	0.20053	0.18031	0.11343
0.3	0.00000	0.26219	0.48852	-0.51148	-0.32124	-0.16733	-0.04971	0.03178	0.07734	0.08715	0.06135
0.4	0.00000	0.20626	0.38977	0.55032	-0.44968	-0.31257	-0.19946	-0.11065	-0.04627	-0.00637	0.00905
0.5	0.00000	0.15119	0.29211	0.42261	0.54228	-0.45772	-0.34958	-0.25371	-0.17061	-0.10056	-0.04367
0.6	0.00000	0.09703	0.19573	0.29601	0.39760	0.50000	-0.50000	-0.39760	-0.29601	-0.19573	-0.09703
0.7	0.00000	0.04367	0.10056	0.17061	0.25371	0.34958	0.45772	-0.54228	-0.42261	-0.29211	-0.15119
0.8	0.00000	-0.00905	0.00637	0.04627	0.11065	0.19946	0.31257	0.44968	-0.55032	-0.38977	-0.20626
0.9	0.00000	-0.06135	-0.08715	-0.07734	-0.03178	0.04970	0.16733	0.32124	0.51148	-0.48852	-0.26219
1.0	0.00000	-0.11343	-0.18031	-0.20053	-0.17384	-0.09981	0.02211	0.19254	0.41209	0.68121	-0.31879
1.0	0.00000	-0.16544	-0.27336	-0.32360	-0.31577	-0.24923	-0.12308	0.06378	0.31254	0.62433	1.00000

L.1 = 1,2

ϵ_{ym}

X/l a/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	1.55027	1.19719	0.86343	0.54742	0.24688	-0.04092	-0.31893	-0.59006	-0.85697	-1.12181	-1.38603
0.1	1.54158	1.19828	0.86432	0.54811	0.24738	-0.04061	-0.31880	-0.59012	-0.85721	-1.12223	-1.38663
0.2	1.52029	1.19568	0.87040	0.55290	0.25090	-0.03834	-0.31777	-0.59031	-0.85861	-1.12484	-1.39044
0.3	1.49265	1.18475	0.87620	0.56545	0.26024	-0.03216	-0.31471	-0.59034	-0.86170	-1.13097	-1.39963
0.4	1.46362	1.16989	0.87551	0.57897	0.27002	-0.02006	-0.30822	-0.58939	-0.86627	-1.14104	-1.41519
0.5	1.43696	1.15451	0.87142	0.58619	0.29662	0.00000	-0.29662	-0.58619	-0.87142	-1.15451	-1.43696
0.6	1.41519	1.14104	0.86627	0.58939	0.30822	0.02006	-0.27802	-0.57897	-0.87551	-1.16989	-1.46362
0.7	1.39963	1.13097	0.86170	0.59034	0.31471	0.03216	-0.26024	-0.56545	-0.87620	-1.18475	-1.49265
0.8	1.39044	1.12484	0.85861	0.59031	0.31778	0.03835	-0.25090	-0.55290	-0.87040	-1.19568	-1.52029
0.9	1.38663	1.12223	0.85721	0.59012	0.31881	0.04061	-0.24738	-0.54811	-0.86431	-1.19828	-1.54158
1.0	1.38603	1.12181	0.85697	0.59027	0.31894	0.04093	-0.24688	-0.54740	-0.86341	-1.19718	-1.55027

ϵ_{QM}

X/l a/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	0.56903	2.95665	1.28763	1.45184	1.49415	1.41964	1.23756	0.93039	0.52003	0.02000
0.1	0.00000	0.56814	2.95523	1.28752	1.45195	1.49444	1.41967	1.23895	0.93074	0.52024	0.02000
0.2	0.00000	0.56319	2.95168	1.28681	1.45240	1.49622	1.42155	1.23346	0.93290	0.52157	0.02000
0.3	0.00000	0.55519	2.98259	1.28165	1.45227	1.49927	1.42705	1.23919	0.93799	0.52475	0.02000
0.4	0.00000	0.54609	2.97027	1.27198	1.44988	1.50255	1.43462	1.24830	0.94534	0.53026	0.02000
0.5	0.00000	0.53737	2.95751	1.25907	1.44312	1.50453	1.44012	1.25987	0.95751	0.53737	0.02000
0.6	0.00000	0.53007	2.94524	1.24832	1.43462	1.50298	1.44988	1.27198	0.97027	0.54609	0.02000
0.7	0.00000	0.52475	2.93799	1.23919	1.42705	1.49927	1.45837	1.28165	0.98259	0.55519	0.02000
0.8	0.00000	0.52157	2.93259	1.23346	1.42195	1.49622	1.45240	1.28621	0.99166	0.56319	0.02000
0.9	0.00000	0.52024	2.93074	1.23095	1.41963	1.49444	1.45196	1.28750	0.99523	0.56814	0.02000
1.0	0.00000	0.52003	2.93039	1.23055	1.41924	1.49415	1.45184	1.28763	0.99566	0.56903	0.02000

ϵ_{MD}

X/l a/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000										
0.1	-1.00000	-0.97032	-0.89093	-0.77568	-0.63767	-0.48937	-0.34275	-0.20932	-0.10035	-0.02691	0.00000
0.2	0.00000	0.02959	-0.97041	-0.89108	-0.77586	-0.63784	-0.48953	-0.34287	-0.20940	-0.10039	-0.02693
0.3	0.00000	0.02928	0.10815	-0.89185	-0.77686	-0.63689	-0.49046	-0.34360	-0.20989	-0.10064	-0.02700
0.4	0.00000	0.02882	0.10678	0.22107	-0.77893	-0.64118	-0.49259	-0.34530	-0.21103	-0.10123	-0.02717
0.5	0.00000	0.02832	0.10516	0.21829	0.35543	-0.64457	-0.49590	-0.34803	-0.21291	-0.10222	-0.02745
0.6	0.00000	0.02784	0.10357	0.21542	0.35157	0.50000	-0.50000	-0.35157	-0.21542	-0.10357	-0.02784
0.7	0.00000	0.02745	0.10222	0.21291	0.34803	0.49590	0.64457	-0.35543	-0.21829	-0.10516	-0.02832
0.8	0.00000	0.02717	0.10123	0.21103	0.34530	0.49259	0.64118	-0.22106	-0.10678	-0.02882	0.00000
0.9	0.00000	0.02700	0.10064	0.20989	0.34360	0.49046	0.63889	0.77894	0.89185	-0.10815	-0.02928
1.0	0.00000	0.02693	0.10039	0.20940	0.34287	0.48953	0.63785	0.77586	0.89109	0.97041	0.00000
										-0.02959	0.00000
										0.97033	1.00000
											0.00000

ϵ_{yp}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	1.07835	0.90228	0.72930	0.56127	0.39893	0.24214	0.09014	-0.05817	-0.20407	-0.34872	-0.49298
0.1	0.90228	0.76943	0.63649	0.50497	0.37606	0.25019	0.12719	0.00653	-0.11254	-0.23076	-0.34872
0.2	0.72930	0.63649	0.54306	0.44818	0.35284	0.25802	0.16414	0.07126	-0.02086	-0.11254	-0.20407
0.3	0.56127	0.50497	0.44818	0.38972	0.32839	0.26505	0.20072	0.13602	0.07126	0.00653	-0.05817
0.4	0.39893	0.37606	0.35284	0.32839	0.30131	0.27032	0.23639	0.20072	0.16414	0.12719	0.09014
0.5	0.24214	0.25019	0.25802	0.26505	0.27032	0.27246	0.27032	0.26505	0.25802	0.25019	0.24214
0.6	0.09014	0.12719	0.16414	0.20072	0.23639	0.27032	0.30131	0.32839	0.35284	0.37606	0.39893
0.7	-0.05817	0.00653	0.07126	0.13602	0.20072	0.26505	0.32839	0.38972	0.44818	0.50497	0.56127
0.8	-0.20407	-0.11254	-0.02086	0.07126	0.16414	0.25802	0.35284	0.44818	0.54306	0.63649	0.72930
0.9	-0.34872	-0.23076	-0.11254	0.00653	0.12719	0.25019	0.37606	0.50497	0.63649	0.76943	0.90228
1.0	-0.49298	-0.34872	-0.20407	-0.05817	0.09014	0.24214	0.39893	0.56127	0.72930	0.90228	1.07835

 ϵ_{MP}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	-0.00042	-0.12616	-0.14387	-0.14001	-0.12079	-0.09227	-0.06026	-0.03049	-0.00855	0.00000
0.1	0.00000	0.01648	-0.03748	-0.06699	-0.07709	-0.07273	-0.05875	-0.03988	-0.02075	-0.00594	0.00000
0.2	0.00000	0.01341	0.05128	0.01000	-0.01406	-0.02457	-0.02516	-0.01945	-0.01099	-0.00333	0.00000
0.3	0.00000	0.01042	0.04024	0.08727	0.04926	0.02386	0.00864	0.00113	-0.00116	-0.00070	0.00000
0.4	0.00000	0.00752	0.02948	0.06499	0.11311	0.07279	0.04285	0.02198	0.00882	0.00197	0.00000
0.5	0.00000	0.00470	0.01902	0.04324	0.07764	0.12241	0.07764	0.04324	0.01902	0.00470	0.00000
0.6	0.00000	0.00197	0.00882	0.02198	0.04285	0.07279	0.11311	0.06499	0.02948	0.00752	0.00000
0.7	0.00000	-0.00070	-0.00116	0.00113	0.00864	0.02386	0.04926	0.08727	0.04024	0.01042	0.00000
0.8	0.00000	-0.00333	-0.01099	-0.01945	-0.02516	-0.02457	-0.01406	0.01000	0.05128	0.01341	0.00000
0.9	0.00000	-0.00594	-0.02075	-0.03988	-0.05875	-0.07273	-0.07709	-0.06599	-0.03748	0.01648	0.00000
1.0	0.00000	-0.00855	-0.03049	-0.06026	-0.09227	-0.12079	-0.14001	-0.14387	-0.12616	-0.00042	0.00000

 ϵ_{QP}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000										
0.1	-1.00000	-0.61966	-0.30642	-0.05870	0.12555	0.24853	0.31222	0.31828	0.26786	0.16167	0.00000
0.2	0.00000	0.32111	-0.67889	-0.40888	-0.18970	-0.02057	0.09963	0.17203	0.19766	0.17726	0.11130
0.3	0.00000	0.26235	0.40895	-0.51105	-0.32062	-0.16677	-0.04946	0.03160	0.07678	0.08645	0.06081
0.4	0.00000	0.20481	0.38792	0.54894	-0.45106	-0.31384	-0.19901	-0.10952	-0.04483	-0.00502	0.00992
0.5	0.00000	0.14886	0.28889	0.41980	0.54087	-0.45913	-0.34922	-0.25182	-0.16781	-0.09771	-0.04175
0.6	0.00000	0.09457	0.19220	0.29271	0.39562	0.50000	-0.50000	-0.39562	-0.29271	-0.19220	-0.09457
0.7	0.00000	0.04175	0.09771	0.16781	0.25182	0.34922	0.45913	-0.54087	-0.41980	-0.28889	-0.14886
0.8	0.00000	-0.00992	0.00502	0.04483	0.10952	0.19900	0.31384	0.45106	-0.54894	-0.38792	-0.20481
0.9	0.00000	-0.06081	-0.08645	-0.07679	-0.03160	0.04945	0.16676	0.32061	0.51105	-0.48895	-0.26234
1.0	0.00000	-0.11131	-0.17727	-0.19767	-0.17205	-0.09964	0.02055	0.18968	0.40886	0.67889	-0.32111
1.0	0.00000	-0.16168	-0.26788	-0.31831	-0.31226	-0.24858	-0.12561	0.05864	0.30636	0.61962	1.00000

$$L/l = 1.4$$

 E_{ym}

X/l a/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.88340	0.66399	0.46386	0.28140	0.11427	-0.04030	-0.18524	-0.32346	-0.45757	-0.58967	-0.72117
0.1	0.87472	0.66508	0.46474	0.28287	0.11475	-0.04000	-0.18513	-0.32353	-0.45781	-0.59008	-0.72175
0.2	0.85354	0.66253	0.47082	0.28682	0.11821	-0.03780	-0.18415	-0.32375	-0.45920	-0.59264	-0.72548
0.3	0.82613	0.65172	0.47653	0.29938	0.12743	-0.03175	-0.18119	-0.32382	-0.46226	-0.59867	-0.73447
0.4	0.79743	0.63703	0.47597	0.31273	0.14504	-0.01983	-0.17485	-0.32295	-0.46680	-0.60858	-0.74974
0.5	0.77115	0.62185	0.47191	0.31985	0.16345	0.00220	-0.16345	-0.31985	-0.47191	-0.62185	-0.77115
0.6	0.74974	0.60858	0.46680	0.32295	0.17485	0.01983	-0.14504	-0.31272	-0.47597	-0.63703	-0.79743
0.7	0.73447	0.59867	0.46226	0.32382	0.18119	0.03175	-0.12743	-0.29930	-0.47663	-0.55172	-0.82613
0.8	0.72548	0.59264	0.45920	0.32375	0.18415	0.03780	-0.11821	-0.28682	-0.47082	-0.66253	-0.85354
0.9	0.72176	0.59008	0.45781	0.32354	0.18514	0.04001	-0.11474	-0.28206	-0.46473	-0.66508	-0.87472
1.0	0.72117	0.58967	0.45758	0.32348	0.18527	0.04033	-0.11423	-0.28136	-0.46382	-0.66397	-0.88340

 E_{QM}

X/l a/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	0.59317	1.02523	1.31043	1.46158	1.48919	1.40200	1.20622	0.90597	0.50358	0.00000
0.1	0.00000	0.59154	1.02438	1.31020	1.46173	1.46973	1.40271	1.20695	0.90660	0.50397	0.00000
0.2	0.00000	0.58243	1.01790	1.30789	1.46258	1.46275	1.40696	1.21150	0.91053	0.50638	0.00000
0.3	0.00000	0.56774	1.00129	1.29958	1.46261	1.49365	1.41632	1.22197	0.91980	0.51215	0.00000
0.4	0.00000	0.55187	0.97872	1.28191	1.45813	1.50551	1.43018	1.23860	0.93501	0.52182	0.00000
0.5	0.00000	0.53514	0.95540	1.25976	1.44578	1.52911	1.44578	1.25976	0.95540	0.53514	0.00000
0.6	0.00000	0.52182	0.93501	1.23860	1.43018	1.50551	1.45813	1.28191	0.97872	0.55187	0.00000
0.7	0.00000	0.51215	0.91979	1.22197	1.41632	1.49365	1.46261	1.29958	1.00129	0.56774	0.00000
0.8	0.00000	0.50638	0.91053	1.21150	1.40696	1.49275	1.46258	1.30789	1.01790	0.58243	0.00000
0.9	0.00000	0.50397	0.90660	1.20695	1.40271	1.48973	1.46173	1.31020	1.02438	0.59154	0.00000
1.0	0.00000	0.50358	0.90597	1.20622	1.40200	1.48919	1.46158	1.31043	1.02523	0.59317	0.00000

 E_{MM}

X/l a/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	
0.0	0.00000											
0.1	-1.00000	-0.96891	-0.88670	-0.76876	-0.62910	-0.48058	-0.33510	-0.20381	-0.09734	-0.02602	0.00000	
0.2	0.00000	0.03092	-0.96908	-0.88699	-0.76909	-0.62943	-0.48087	-0.33532	-0.20395	-0.09742	-0.02604	0.00000
0.3	0.00000	0.03034	0.11159	-0.88841	-0.77094	-0.63134	-0.48258	-0.33665	-0.20484	-0.09787	-0.02617	0.00000
0.4	0.00000	0.02950	0.10908	0.22525	-0.77475	-0.63554	-0.48645	-0.33975	-0.20692	-0.09895	-0.02648	0.00000
0.5	0.00000	0.02858	0.10610	0.22018	0.35825	-0.64175	-0.49251	-0.34473	-0.21035	-0.10074	-0.02699	0.00000
0.6	0.00000	0.02771	0.10320	0.21493	0.35121	0.50000	-0.35121	-0.21493	-0.10320	-0.02771	0.00000	
0.7	0.00000	0.02699	0.10074	0.21035	0.34473	0.49251	0.64175	-0.35825	-0.22018	-0.10610	-0.02858	0.00000
0.8	0.00000	0.02648	0.09895	0.20692	0.33975	0.48645	0.63554	0.77475	-0.22525	-0.10908	-0.02950	0.00000
0.9	0.00000	0.02617	0.09787	0.20484	0.33665	0.48258	0.63134	0.77095	-0.22525	-0.10908	-0.02950	0.00000
1.0	0.00000	0.02602	0.09734	0.20381	0.33511	0.48059	0.62912	0.76878	-0.11159	-0.03034	0.00000	
										-0.03092	0.00000	
										0.02604	0.00000	
										0.09689	1.00000	
										0.96894	0.00000	

L1=1.6

ϵ_{YP}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.64683	0.53568	0.42762	0.32447	0.22691	0.13480	0.04738	-0.03646	-0.11796	-0.19825	-0.27817
0.1	0.53568	0.45470	0.37362	0.29393	0.21681	0.14267	0.07135	0.00231	-0.06518	-0.13184	-0.19825
0.2	0.42762	0.37362	0.31899	0.26291	0.20637	0.15033	0.09524	0.04111	-0.01225	-0.06518	-0.11796
0.3	0.32447	0.29393	0.26291	0.23024	0.19473	0.15723	0.11877	0.07996	0.04111	0.00231	-0.03646
0.4	0.22691	0.21681	0.20637	0.19473	0.18048	0.16240	0.14143	0.11877	0.09524	0.07135	0.04738
0.5	0.13480	0.14267	0.15033	0.15723	0.16240	0.16450	0.16240	0.15723	0.15033	0.14267	0.13480
0.6	0.04738	0.07135	0.09524	0.11877	0.14143	0.16240	0.18048	0.19473	0.20637	0.21681	0.22691
0.7	-0.03646	0.00231	0.04111	0.07996	0.11877	0.15723	0.19473	0.23024	0.26291	0.29393	0.32447
0.8	-0.11796	-0.06518	-0.01225	0.04111	0.09524	0.15033	0.20637	0.26291	0.31899	0.37362	0.42762
0.9	-0.19825	-0.13184	-0.06518	0.00231	0.07135	0.14267	0.21681	0.29393	0.37362	0.45470	0.53568
1.0	-0.27817	-0.19825	-0.11796	-0.03646	0.04738	0.13480	0.22691	0.32447	0.42762	0.53568	0.64683

ϵ_{MP}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	-0.00002	-0.12492	-0.14177	-0.13732	-0.11797	-0.08977	-0.05843	-0.02948	-0.00824	0.00000
0.1	0.00000	0.01667	-0.03686	-0.06590	-0.07567	-0.07120	-0.05738	-0.03886	-0.02018	-0.00577	0.00000
0.2	0.00000	0.01342	0.05133	0.01013	-0.01384	-0.02428	-0.02487	-0.01921	-0.01085	-0.00329	0.00000
0.3	0.00000	0.01030	0.03986	0.08664	0.04849	0.02310	0.00800	0.00068	-0.00139	-0.00077	0.00000
0.4	0.00000	0.00733	0.02886	0.06391	0.11171	0.07131	0.04154	0.02103	0.00830	0.00181	0.00000
0.5	0.00000	0.00450	0.01836	0.04206	0.07605	0.12057	0.07605	0.04206	0.01836	0.00450	0.00000
0.6	0.00000	0.00181	0.00830	0.02103	0.04154	0.07131	0.11171	0.06391	0.02886	0.00733	0.00000
0.7	0.00000	-0.00077	-0.00139	0.00068	0.00800	0.02310	0.04849	0.00664	0.03986	0.01030	0.00000
0.8	0.00000	-0.00329	-0.01085	-0.01921	-0.02487	-0.02428	-0.01384	0.01013	0.05133	0.01342	0.00000
0.9	0.00000	-0.00577	-0.02018	-0.03886	-0.05738	-0.07120	-0.07567	-0.06590	-0.03686	0.01667	0.00000
1.0	0.00000	-0.00824	-0.02948	-0.05843	-0.08977	-0.11797	-0.13732	-0.14177	-0.12492	-0.08002	0.00000

ϵ_{QP}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000										
0.1	-1.00000	-0.61253	-0.29716	-0.05103	0.12933	0.24758	0.30705	0.31047	0.25977	0.15612	0.00000
0.2	0.00000	0.32454	-0.67546	-0.40411	-0.18549	-0.01829	0.09935	0.16935	0.19339	0.17273	0.10816
0.3	0.00000	0.26256	0.48958	-0.51042	-0.31969	-0.16593	-0.04909	0.03133	0.07596	0.08539	0.06001
0.4	0.00000	0.20264	0.38516	0.54689	-0.45311	-0.31371	-0.19831	-0.10784	-0.04271	-0.00304	0.01119
0.5	0.00000	0.14541	0.28411	0.41564	0.53878	-0.46122	-0.34867	-0.24899	-0.16366	-0.09351	-0.03891
0.6	0.00000	0.09093	0.18696	0.28781	0.39267	0.50000	-0.50000	-0.39267	-0.28781	-0.18696	-0.09093
0.7	0.00000	0.03891	0.09351	0.16366	0.24899	0.34867	0.46122	-0.53878	-0.41564	-0.28411	-0.14541
0.8	0.00000	0.00304	0.01119	0.04271	0.10784	0.19831	0.31371	0.45311	-0.54689	-0.38516	-0.20264
0.9	0.00000	-0.01119	-0.00304	-0.04271	-0.10784	-0.19831	-0.31371	-0.45311	-0.54689	-0.38516	-0.20264
1.0	0.00000	-0.06001	-0.08540	-0.07597	-0.03134	0.04907	0.16591	0.31968	0.51042	-0.48958	-0.26256
0.9	0.00000	-0.10817	-0.17275	-0.19342	-0.16939	-0.09939	0.01824	0.18544	0.40406	0.67546	0.00000
1.0	0.00000	-0.15612	-0.25977	-0.31047	-0.30705	-0.24758	-0.12933	0.05104	0.29719	0.61251	1.00000

ϵ_{ym}

X/l a/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.55870	0.40460	0.26979	0.15253	0.05039	-0.03943	-0.11989	-0.19384	-0.26385	-0.33193	-0.39945
0.1	0.55006	0.40576	0.27073	0.15325	0.05091	-0.03911	-0.11975	-0.19389	-0.26407	-0.33232	-0.40002
0.2	0.52903	0.40328	0.27681	0.15794	0.05428	-0.03700	-0.11884	-0.19414	-0.26544	-0.33481	-0.40361
0.3	0.50196	0.39264	0.28263	0.17031	0.06333	-0.03113	-0.11603	-0.19428	-0.26847	-0.34069	-0.41232
0.4	0.47375	0.37821	0.28201	0.18359	0.08068	-0.01949	-0.10992	-0.19352	-0.27295	-0.35035	-0.42715
0.5	0.44802	0.36332	0.27800	0.19056	0.09880	0.00000	-0.09880	-0.19056	-0.27800	-0.36332	-0.44802
0.6	0.42715	0.35035	0.27295	0.19352	0.10992	0.01949	-0.08068	-0.18359	-0.28201	-0.37821	-0.47375
0.7	0.41232	0.34069	0.26847	0.19428	0.11603	0.03113	-0.06333	-0.17031	-0.28263	-0.39264	-0.50196
0.8	0.40361	0.33481	0.26544	0.19414	0.11884	0.03700	-0.05428	-0.15793	-0.27681	-0.40328	-0.52903
0.9	0.40002	0.33232	0.26407	0.19389	0.11977	0.03913	-0.05088	-0.15322	-0.27071	-0.40576	-0.55006
1.0	0.39945	0.33193	0.26385	0.19384	0.11989	0.03943	-0.05039	-0.15253	-0.26980	-0.40463	-0.55870

ϵ_{OM}

X/l a/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	0.62917	1.06914	1.34412	1.47560	1.48161	1.37634	1.17017	0.86990	0.47934	0.00000
0.1	0.00000	0.62642	1.06772	1.34375	1.47601	1.48253	1.37753	1.17139	0.87094	0.47997	0.00000
0.2	0.00000	0.61103	1.05688	1.33999	1.47755	1.48767	1.38466	1.17897	0.87746	0.48395	0.00000
0.3	0.00000	0.58530	1.02900	1.32621	1.47780	1.49770	1.40037	1.19643	0.89205	0.49351	0.00000
0.4	0.00000	0.55836	0.99117	1.29666	1.47050	1.50937	1.42366	1.22420	0.91817	0.50956	0.00000
0.5	0.00000	0.53174	0.95217	1.25959	1.44983	1.51551	1.44983	1.25959	0.95217	0.53174	0.00000
0.6	0.00000	0.50956	0.91817	1.22420	1.42366	1.50937	1.47050	1.29666	0.99117	0.55836	0.00000
0.7	0.00000	0.49351	0.89205	1.19643	1.40037	1.49770	1.47780	1.32621	1.02900	0.58530	0.00000
0.8	0.00000	0.48395	0.87746	1.17897	1.38466	1.48767	1.47755	1.33999	1.05688	0.61103	0.00000
0.9	0.00000	0.47997	0.87094	1.17139	1.37753	1.48253	1.47621	1.34375	1.06772	0.62642	0.00000
1.0	0.00000	0.47934	0.86990	1.17017	1.37634	1.48161	1.47560	1.34412	1.06914	0.62917	0.00000

ϵ_{MM}

X/l a/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000										
0.1	-1.00000	-0.96692	-0.88049	-0.75853	-0.61643	-0.46759	-0.32381	-0.19568	-0.09291	-0.02470	0.00000
0.2	0.00000	0.03290	-0.96710	-0.88089	-0.75904	-0.61694	-0.46804	-0.32416	-0.19591	-0.09303	-0.02474
0.3	0.00000	0.03192	0.11670	-0.88330	-0.76215	-0.62014	-0.47089	-0.32638	-0.19738	-0.09378	-0.02495
0.4	0.00000	0.03051	0.11248	0.23146	-0.76854	-0.62717	-0.47736	-0.33153	-0.20084	-0.09556	-0.02546
0.5	0.00000	0.02896	0.10749	0.22295	0.36244	-0.63756	-0.48748	-0.33984	-0.20653	-0.09855	-0.02632
0.6	0.00000	0.02751	0.10264	0.21418	0.35065	0.50000	-0.50000	-0.35065	-0.21418	-0.10264	-0.02751
0.7	0.00000	0.02632	0.09855	0.20653	0.33984	0.48748	0.63756	-0.36244	-0.22295	-0.10749	-0.02896
0.8	0.00000	0.02546	0.09556	0.20084	0.33153	0.47736	0.62717	0.76854	-0.23146	-0.11248	-0.03051
0.9	0.00000	0.02474	0.09303	0.19738	0.32638	0.47089	0.62015	0.76216	0.88330	-0.11670	-0.03192
1.0	0.00000	0.02470	0.09291	0.19568	0.32417	0.46805	0.61696	0.75906	0.88092	0.96710	1.00000
										-0.03290	0.00000
										0.02470	0.00000
										0.09291	0.00000
										0.19568	0.00000
										0.32417	0.00000
										0.46805	0.00000
										0.61696	0.00000
										0.75906	0.00000
										0.88092	0.00000
										0.96710	0.00000
										1.00000	0.00000

ϵ_{yp}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.41661	0.34029	0.26703	0.19860	0.13566	0.07801	0.02490	-0.02477	-0.07219	-0.11846	-0.16438
0.1	0.34029	0.28705	0.23369	0.18170	0.13222	0.08563	0.04179	0.00014	-0.04000	-0.07935	-0.11846
0.2	0.26703	0.23369	0.19974	0.16433	0.12844	0.09306	0.05860	0.02509	-0.00767	-0.04000	-0.07219
0.3	0.19860	0.18170	0.16433	0.14532	0.12351	0.09975	0.07508	0.05009	0.02509	0.00014	-0.02477
0.4	0.13566	0.13222	0.12844	0.12351	0.11603	0.10479	0.09075	0.07508	0.05860	0.04179	0.02490
0.5	0.07801	0.08563	0.09306	0.09975	0.10479	0.10684	0.10479	0.09975	0.09306	0.08563	0.07801
0.6	0.02490	0.04179	0.05860	0.07508	0.09075	0.10479	0.11603	0.12351	0.12844	0.13222	0.13566
0.7	-0.02477	0.00014	0.02509	0.05009	0.07508	0.09975	0.12351	0.14532	0.16433	0.18170	0.19860
0.8	-0.07219	-0.04000	-0.00767	0.02509	0.05860	0.09306	0.12844	0.16433	0.19974	0.23369	0.26703
0.9	-0.11846	-0.07935	-0.04000	0.00014	0.04179	0.08563	0.13222	0.18170	0.23369	0.28705	0.34029
1.0	-0.16438	-0.11846	-0.07219	-0.02477	0.02490	0.07801	0.13566	0.19860	0.26703	0.34029	0.41661

ϵ_{MP}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	-0.07948	-0.12320	-0.13885	-0.13361	-0.11408	-0.08631	-0.05591	-0.02808	-0.00782	0.00000
0.1	0.00000	0.01693	-0.03601	-0.06440	-0.07370	-0.06910	-0.05548	-0.03745	-0.01940	-0.00553	0.00000
0.2	0.00000	0.01343	0.05139	0.01031	-0.01353	-0.02389	-0.02446	-0.01887	-0.01065	-0.00323	0.00000
0.3	0.00000	0.01013	0.03933	0.09576	0.04743	0.02204	0.00712	0.00007	-0.00171	-0.00086	0.00000
0.4	0.00000	0.00706	0.02800	0.06241	0.10976	0.06926	0.03974	0.01973	0.00759	0.00160	0.00000
0.5	0.00000	0.00423	0.01744	0.04042	0.07386	0.11827	0.07386	0.04042	0.01744	0.00423	0.00000
0.6	0.00000	0.00160	0.00759	0.01973	0.03974	0.06926	0.10976	0.06241	0.02800	0.00706	0.00000
0.7	0.00000	-0.00086	-0.00171	0.00007	0.00712	0.02204	0.04743	0.08576	0.03933	0.01013	0.00000
0.8	0.00000	-0.00323	-0.01065	-0.01887	-0.02446	-0.02389	-0.01353	0.01031	0.05139	0.01343	0.00000
0.9	0.00000	-0.00553	-0.01940	-0.03745	-0.05548	-0.06910	-0.07370	-0.06440	-0.03601	0.01693	0.00000
1.0	0.00000	-0.00782	-0.02808	-0.05591	-0.08631	-0.11408	-0.13361	-0.13885	-0.12320	-0.07948	0.00000

ϵ_{QP}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000										
0.1	-1.00000	-0.60287	-0.28440	-0.04052	0.13443	0.24614	0.29980	0.29963	0.24859	0.14847	0.00000
0.2	0.00000	0.32929	-0.67071	-0.39737	-0.17956	-0.01505	0.09903	0.16570	0.18754	0.16652	0.10384
0.3	0.00000	0.26283	0.49044	-0.50957	-0.31840	-0.16475	-0.04855	0.03096	0.07482	0.08392	0.05888
0.4	0.00000	0.19962	0.38132	0.54407	-0.45594	-0.31461	-0.19731	-0.10549	-0.03978	-0.00032	0.01292
0.5	0.00000	0.14061	0.27748	0.40988	0.53591	-0.46409	-0.34788	-0.24506	-0.15792	-0.08771	-0.03501
0.6	0.00000	0.10661	0.27748	0.40988	0.53591	-0.46409	-0.34788	-0.24506	-0.15792	-0.08771	-0.03501
0.7	0.00000	0.08590	0.17973	0.28103	0.38858	0.50000	-0.38858	-0.28103	-0.17973	-0.08590	0.00000
0.8	0.00000	0.06590	0.17973	0.28103	0.38858	0.50000	-0.38858	-0.28103	-0.17973	-0.08590	0.00000
0.9	0.00000	0.03500	0.08771	0.15792	0.24506	0.34788	0.46409	-0.53591	-0.40988	-0.27748	-0.14061
1.0	0.00000	0.01292	0.00032	0.03977	0.10549	0.19730	0.31460	0.45593	-0.54406	-0.38132	-0.19962
0.8	0.00000	-0.05889	-0.08393	-0.07484	-0.03099	0.04852	0.16471	0.31837	0.50956	-0.49043	-0.26283
0.9	0.00000	-0.10384	-0.16652	-0.18754	-0.16570	-0.09903	0.01506	0.17958	0.39742	0.67071	-0.32929
1.0	0.00000	-0.14847	-0.24859	-0.29963	-0.29980	-0.24614	-0.13443	0.04054	0.28447	0.60287	1.00000

L.L = 1,8

ϵ_{ym}

X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.38459	0.26593	0.16642	0.08433	0.01709	-0.03818	-0.08446	-0.12453	-0.16088	-0.19543	-0.22946
0.1	0.37598	0.26707	0.16733	0.08501	0.01756	-0.03791	-0.08435	-0.12460	-0.16110	-0.19581	-0.22999
0.2	0.35518	0.26471	0.17345	0.08968	0.02006	-0.03588	-0.08351	-0.12487	-0.16245	-0.19820	-0.23342
0.3	0.32857	0.25430	0.17931	0.10190	0.02967	-0.03027	-0.08090	-0.12511	-0.16542	-0.20385	-0.24173
0.4	0.30103	0.24022	0.17873	0.11499	0.04667	-0.01903	-0.07511	-0.12450	-0.16982	-0.21318	-0.25595
0.5	0.27608	0.22575	0.17479	0.12174	0.06438	0.00000	-0.06438	-0.12174	-0.17479	-0.22575	-0.27608
0.6	0.25595	0.21318	0.16982	0.12450	0.07511	0.01903	-0.06667	-0.11499	-0.17873	-0.24022	-0.30103
0.7	0.24173	0.20385	0.16542	0.12511	0.08091	0.03028	-0.02966	-0.10190	-0.17931	-0.25430	-0.32857
0.8	0.23342	0.19820	0.16245	0.12488	0.08352	0.03589	-0.02004	-0.08966	-0.17345	-0.26471	-0.35518
0.9	0.22999	0.19581	0.16110	0.12460	0.08435	0.03790	-0.01756	-0.08502	-0.16733	-0.25707	-0.37598
1.0	0.22946	0.19543	0.16088	0.12453	0.08446	0.03818	-0.01709	-0.08434	-0.16645	-0.26593	-0.38459

ϵ_{QM}

X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	0.67943	1.13008	1.39051	1.49454	1.47057	1.34050	1.12036	0.82028	0.44606	0.00000
0.1	0.00000	0.67509	1.12790	1.38999	1.49532	1.47213	1.34247	1.12226	0.82167	0.44702	0.00000
0.2	0.00000	0.65077	1.11102	1.38426	1.49798	1.48033	1.35263	1.13399	0.83192	0.45318	0.00000
0.3	0.00000	0.61191	1.06734	1.36316	1.49805	1.49632	1.37823	1.16103	0.85561	0.46778	0.00000
0.4	0.00000	0.56822	1.00823	1.31714	1.48727	1.51494	1.41470	1.20424	0.89476	0.49252	0.00000
0.5	0.00000	0.52583	0.94751	1.25923	1.45589	1.52475	1.45569	1.25933	0.94751	0.52583	0.00000
0.6	0.00000	0.49252	0.89476	1.20424	1.41470	1.51494	1.48727	1.31714	1.00823	0.56822	0.00000
0.7	0.00000	0.46778	0.85561	1.16103	1.37823	1.49632	1.45986	1.35316	1.06734	0.61191	0.00000
0.8	0.00000	0.45318	0.83192	1.13399	1.35263	1.48033	1.49798	1.38426	1.11102	0.65077	0.00000
0.9	0.00000	0.44702	0.82167	1.12226	1.34247	1.47213	1.49532	1.38999	1.12790	0.67509	0.00000
1.0	0.00000	0.44606	0.82028	1.12036	1.34050	1.47057	1.49454	1.39051	1.13008	0.67943	0.00000

ϵ_{MM}

X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0		
0.0	0.00000												
0.1	-1.00000	-0.96395	-0.87177	-0.74428	-0.59884	-0.44961	-0.30823	-0.18449	-0.08682	-0.02290	0.00000		
0.2	0.00000	0.03566	-0.87248	-0.74512	-0.59967	-0.45033	-0.30878	-0.18484	-0.08700	-0.02295	0.00000		
0.3	0.00000	-0.96434	0.12381	-0.87619	-0.74994	-0.60463	-0.45473	-0.31220	-0.18710	-0.08815	-0.02327	0.00000	
0.4	0.00000	0.03412	0.03189	0.11717	0.24005	-0.75995	-0.61558	-0.46478	-0.32017	-0.19243	-0.09089	-0.02405	0.00000
0.5	0.00000	0.02947	0.18937	0.22676	0.36820	-0.63180	-0.48051	-0.33305	-0.20124	-0.09549	-0.02537	0.00000	
0.6	0.00000	0.02722	0.10183	0.21310	0.34985	0.50000	-0.50000	-0.34985	-0.21310	-0.10183	-0.02722	0.00000	
0.7	0.00000	0.02537	0.09549	0.20124	0.33305	0.48051	0.63180	-0.36820	-0.22676	-0.18937	-0.02947	0.00000	
0.8	0.00000	0.02405	0.09089	0.19243	0.32017	0.46478	0.61559	-0.24005	-0.11717	-0.03189	0.00000		
0.9	0.00000	0.02327	0.08815	0.18710	0.31220	0.45473	0.60464	0.74996	0.87619	0.96434	1.00000		
1.0	0.00000	0.02295	0.08700	0.18484	0.30878	0.45033	0.59967	0.74511	0.87245	0.96395	1.00000		
												0.00000	

L.1 = 2

ϵ_{yp}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.28440	0.22828	0.17520	0.12686	0.08385	0.04595	0.01238	-0.01792	-0.04610	-0.07321	-0.09999
0.1	0.22828	0.19105	0.15370	0.11766	0.08405	0.05325	0.02507	-0.00100	-0.02565	-0.04955	-0.07321
0.2	0.17520	0.15370	0.13158	0.10800	0.08395	0.06037	0.03769	0.01595	-0.00506	-0.02565	-0.04610
0.3	0.12686	0.11766	0.10800	0.09574	0.08272	0.06680	0.05003	0.03298	0.01595	-0.00100	-0.01792
0.4	0.08385	0.08405	0.08395	0.08272	0.07903	0.07167	0.06161	0.05003	0.03769	0.02507	0.01238
0.5	0.04595	0.05325	0.06037	0.06680	0.07167	0.07366	0.07167	0.06680	0.06037	0.05325	0.04595
0.6	0.01238	0.02507	0.03769	0.05003	0.06161	0.07167	0.07903	0.08272	0.08395	0.08405	0.08385
0.7	-0.01792	-0.00100	0.01595	0.03298	0.05003	0.06680	0.08272	0.09674	0.10800	0.11766	0.12686
0.8	-0.04610	-0.02565	-0.00506	0.01595	0.03769	0.06037	0.08395	0.10800	0.13158	0.15370	0.17520
0.9	-0.07321	-0.04955	-0.02565	-0.00100	0.02507	0.05325	0.08405	0.11766	0.15370	0.19105	0.22828
1.0	-0.09999	-0.07321	-0.04610	-0.01792	0.01238	0.04595	0.08385	0.12686	0.17520	0.22828	0.28440

ϵ_{MP}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	-0.07876	-0.12094	-0.13504	-0.12876	-0.10900	-0.08163	-0.05264	-0.02628	-0.00729	0.00000
0.1	0.00000	0.01727	-0.03489	-0.06245	-0.07114	-0.06635	-0.05301	-0.03562	-0.01838	-0.00523	0.00000
0.2	0.00000	0.01344	0.05147	0.01053	-0.01314	-0.02736	-0.02392	-0.01844	-0.01039	-0.00314	0.00000
0.3	0.00000	0.00990	0.03863	0.03941	0.04002	0.02967	0.00598	-0.00071	-0.00212	-0.00099	0.00000
0.4	0.00000	0.00671	0.02687	0.05045	0.07223	0.06650	0.03740	0.01804	0.00667	0.00133	0.00000
0.5	0.00000	0.00387	0.01626	0.02820	0.07100	0.11514	0.07100	0.03030	0.01626	0.00387	0.00000
0.6	0.00000	0.00133	0.00557	0.01804	0.03740	0.06650	0.12723	0.06245	0.02687	0.00671	0.00000
0.7	0.00000	-0.00098	-0.00212	-0.00071	0.00598	0.02967	0.04603	0.04451	0.03863	0.00990	0.00000
0.8	0.00000	-0.00314	-0.01039	-0.01844	-0.02392	-0.02392	-0.01314	0.01053	0.05147	0.01344	0.00000
0.9	0.00000	-0.00523	-0.01838	-0.03562	-0.05301	-0.06635	-0.07114	-0.05264	-0.03489	0.01727	0.00000
1.0	0.00000	-0.00729	-0.02628	-0.05264	-0.08163	-0.10900	-0.12876	-0.13504	-0.12094	-0.07876	0.00000

ϵ_{QP}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	
0.0	0.00000	-1.00000	-0.59009	-0.26785	-0.02686	0.14096	0.24415	0.29030	0.28552	0.23410	0.13857	0.00000
0.1	0.00000	0.33550	-0.66450	-0.38876	-0.17191	-0.01093	0.09854	0.16087	0.17989	0.15843	0.09821	0.00000
0.2	0.00000	0.26314	0.49153	-0.50847	-0.31663	-0.16310	-0.04776	0.03056	0.07336	0.08200	0.05740	0.00000
0.3	0.00000	0.19563	0.37628	0.54040	-0.45961	-0.31571	-0.19593	-0.10240	-0.03597	0.00317	0.01513	0.00000
0.4	0.00000	0.13433	0.26882	0.40237	0.53221	-0.46780	-0.34679	-0.23989	-0.15043	-0.08020	-0.02997	0.00000
0.5	0.00000	0.07937	0.17031	0.27218	0.38325	0.50000	-0.50000	-0.38325	-0.27218	-0.17031	-0.07937	0.00000
0.6	0.00000	0.02997	0.08019	0.15043	0.23988	0.34678	0.46780	-0.53220	-0.40237	-0.26882	-0.13433	0.00000
0.7	0.00000	-0.01514	-0.00318	0.03596	0.10238	0.19591	0.31569	0.45960	-0.54039	-0.37628	-0.19563	0.00000
0.8	0.00000	-0.05740	-0.08200	-0.07336	-0.03056	0.04776	0.16310	0.31665	0.50847	-0.49153	-0.26314	0.00000
0.9	0.00000	-0.09821	-0.15843	-0.17989	-0.16087	-0.09854	0.01093	0.17194	0.38876	0.66450	-0.33550	0.00000
1.0	0.00000	-0.13857	-0.23410	-0.28552	-0.29030	-0.24415	-0.14095	0.02690	0.26785	0.59009	1.00000	0.00000

ϵ_{ym}

X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.28354	0.18585	0.10726	0.04581	-0.00113	-0.03557	-0.06346	-0.08455	-0.10220	-0.11822	-0.13376
0.1	0.27498	0.18701	0.10817	0.04647	-0.00069	-0.03531	-0.06337	-0.08463	-0.10242	-0.11858	-0.13426
0.2	0.25447	0.18479	0.11428	0.05103	0.00245	-0.03445	-0.06265	-0.08496	-0.10374	-0.12084	-0.13746
0.3	0.22847	0.17470	0.12016	0.05309	0.01097	-0.02916	-0.06030	-0.08530	-0.10653	-0.12620	-0.14527
0.4	0.20181	0.16107	0.11964	0.07591	0.02751	-0.01942	-0.05491	-0.08489	-0.11094	-0.13510	-0.15870
0.5	0.17786	0.14714	0.11580	0.08238	0.04469	0.00000	-0.04469	-0.08238	-0.11580	-0.14714	-0.17786
0.6	0.15870	0.13510	0.11094	0.08489	0.05491	0.01942	-0.02751	-0.07591	-0.11964	-0.16107	-0.20181
0.7	0.14526	0.12620	0.10653	0.08531	0.06031	0.02916	-0.01096	-0.06309	-0.12016	-0.17470	-0.22847
0.8	0.13746	0.12084	0.10374	0.08496	0.06266	0.03445	-0.00245	-0.05104	-0.11428	-0.16479	-0.25447
0.9	0.13426	0.11858	0.10242	0.08453	0.06337	0.03631	0.00069	-0.04648	-0.10817	-0.18701	-0.27498
1.0	0.13376	0.11822	0.10220	0.08455	0.06346	0.03557	0.00113	-0.04582	-0.10726	-0.18585	-0.28354

ϵ_{QM}

X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	0.74575	1.20984	1.45053	1.51855	1.45557	1.29363	1.05560	0.75614	0.40321	0.00000
0.1	0.00000	0.73925	1.20665	1.44905	1.51955	1.45778	1.29638	1.05837	0.75843	0.40458	0.00000
0.2	0.00000	0.70288	1.18182	1.44204	1.52410	1.47019	1.31288	1.07546	0.77289	0.41331	0.00000
0.3	0.00000	0.64513	1.11729	1.41146	1.52633	1.49441	1.34925	1.11499	0.80719	0.43439	0.00000
0.4	0.00000	0.58066	1.03015	1.34394	1.51102	1.52264	1.40320	1.17814	0.86407	0.47012	0.00000
0.5	0.00000	0.52005	0.94106	1.25897	1.45377	1.53753	1.45377	1.25897	0.94106	0.52005	0.00000
0.6	0.00000	0.47012	0.86407	1.17814	1.40320	1.52264	1.51102	1.34394	1.03015	0.58066	0.00000
0.7	0.00000	0.43439	0.80719	1.11499	1.34925	1.49441	1.52633	1.41146	1.11729	0.64513	0.00000
0.8	0.00000	0.41331	0.77289	1.07546	1.31288	1.47019	1.52410	1.44204	1.18182	0.70288	0.00000
0.9	0.00000	0.40458	0.75843	1.05837	1.29638	1.45778	1.51955	1.44985	1.20566	0.73925	0.00000
1.0	0.00000	0.40321	0.75614	1.25560	1.29363	1.45557	1.51855	1.45053	1.20984	0.74575	0.00000

ϵ_{MM}

X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000										
0.1	-1.00000	-0.96011	-0.86023	-0.72559	-0.57587	-0.42622	-0.28805	-0.17003	-0.07897	-0.02057	0.00000
0.2	0.00000	0.03931	-0.96069	-0.86129	-0.72683	-0.57709	-0.42727	-0.28884	-0.17054	-0.07923	-0.02065
0.3	0.00000	0.03700	0.13312	-0.86688	-0.73401	-0.58440	-0.43371	-0.29380	-0.17379	-0.08087	-0.02111
0.4	0.00000	0.03369	0.12326	0.25122	-0.74878	-0.60049	-0.44839	-0.30538	-0.18150	-0.08483	-0.02223
0.5	0.00000	0.03012	0.11176	0.23163	0.37567	-0.62433	-0.47142	-0.32416	-0.19429	-0.09149	-0.02414
0.6	0.00000	0.02682	0.10071	0.21160	0.34874	0.50000	-0.50000	-0.34874	-0.21160	-0.10071	-0.02682
0.7	0.00000	0.02414	0.09149	0.19429	0.32416	0.47142	0.62433	-0.37567	-0.23163	-0.11176	-0.03012
0.8	0.00000	0.02223	0.08483	0.18150	0.30538	0.44839	0.60050	0.74878	-0.25122	-0.12326	-0.03369
0.9	0.00000	0.02111	0.08087	0.17379	0.29380	0.43371	0.58440	0.73400	0.86688	-0.13312	-0.03700
1.0	0.00000	0.02057	0.07897	0.17003	0.28805	0.42622	0.57587	0.72558	0.86023	0.96011	1.00000

ϵ_{yp}

X/l a/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.20370	0.16016	0.11950	0.08368	0.05290	0.02700	0.00518	-0.01359	-0.03040	-0.04623	-0.06175
0.1	0.16016	0.13279	0.10529	0.07904	0.05513	0.03390	0.01516	-0.00159	-0.01701	-0.03173	-0.04623
0.2	0.11950	0.10529	0.09036	0.07396	0.05707	0.04064	0.02509	0.01045	-0.00348	-0.01701	-0.03040
0.3	0.08368	0.07904	0.07396	0.06730	0.05794	0.04676	0.03478	0.02255	0.01045	-0.00159	-0.01359
0.4	0.05290	0.05513	0.05707	0.05794	0.05645	0.05141	0.04380	0.03478	0.02509	0.01516	0.00518
0.5	0.02700	0.03390	0.04064	0.04676	0.05141	0.05332	0.05141	0.04676	0.04064	0.03390	0.02700
0.6	0.00518	0.01516	0.02509	0.03478	0.04380	0.05141	0.05645	0.05794	0.05707	0.05513	0.05290
0.7	-0.01359	-0.00159	0.01045	0.02255	0.03478	0.04676	0.05794	0.06730	0.07396	0.07904	0.08368
0.8	-0.03040	-0.01701	-0.00348	0.01045	0.02255	0.04064	0.05707	0.07396	0.09036	0.10529	0.11950
0.9	-0.04623	-0.03173	-0.01701	-0.00159	0.01516	0.03390	0.05513	0.07904	0.10529	0.13279	0.16016
1.0	-0.06175	-0.04623	-0.03040	-0.01359	0.00518	0.02700	0.05290	0.08368	0.11950	0.16016	0.20370

ϵ_{MP}

X/l a/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	2.00000	-0.07786	-0.11814	-0.13231	-0.12378	-0.10275	-0.07653	-0.04683	-0.02430	-0.00163	0.02020
0.1	0.00000	2.01789	-0.03351	-0.05073	-0.05799	-0.04687	-0.02997	-0.00337	-0.01713	-0.00485	0.00000
0.2	0.00000	0.01345	0.05156	0.01079	-0.01366	-0.02972	-0.02031	-0.01789	-0.01026	-0.00374	0.00000
0.3	0.00000	0.00962	0.02775	0.00317	0.04431	0.01899	0.00450	-0.00166	-0.00292	-0.00112	0.00000
0.4	0.00000	0.00620	0.02546	0.05825	0.10429	0.06331	0.03450	0.01596	0.00554	0.00100	0.00000
0.5	0.00000	0.00342	0.01400	0.00319	0.00749	0.11126	0.06749	0.03559	0.01490	0.00342	0.00000
0.6	0.00000	0.00100	0.00554	0.01596	0.03450	0.06331	0.10429	0.05825	0.02546	0.00620	0.00000
0.7	0.00000	-0.00112	-0.00292	-0.00166	0.00450	0.01899	0.04431	0.00317	0.00775	0.00562	0.00000
0.8	0.00000	-0.00334	-0.01026	-0.01789	-0.02972	-0.04687	-0.07653	0.01079	0.01596	0.01345	0.00000
0.9	0.00000	-0.00485	-0.01713	-0.03351	-0.05073	-0.07497	-0.09657	-0.06799	-0.02003	-0.03351	0.00000
1.0	0.00000	-0.00653	-0.02402	-0.04653	-0.07653	-0.10275	-0.12278	-0.13031	-0.11814	-0.07786	0.00000

ϵ_{QP}

X/l a/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000										
0.1	-1.00000	-0.57416	-0.24728	-0.01009	0.14882	0.24151	0.27849	0.26815	0.21635	0.12649	0.00000
0.2	0.00000	0.34317	-0.65683	-0.37805	-0.16247	-0.00588	0.09787	0.15489	0.17046	0.14848	0.09132
0.3	0.00000	0.26344	0.49283	-0.50717	-0.31444	-0.16103	-0.04674	0.03006	0.07153	0.07958	0.05554
0.4	0.00000	0.19061	0.36999	0.53590	-0.46412	-0.31695	-0.19409	-0.09850	-0.03129	0.00740	0.01777
0.5	0.00000	0.12655	0.25809	0.39311	0.52771	-0.47230	-0.34533	-0.23344	-0.14121	-0.07100	-0.02383
0.6	0.00000	0.07134	0.15871	0.26127	0.37664	0.50000	-0.50000	-0.37664	-0.26127	-0.15871	-0.07134
0.7	0.00000	0.02383	0.07100	0.14121	0.23344	0.34532	0.47229	-0.52770	-0.39311	-0.25809	-0.12655
0.8	0.00000	-0.01778	-0.00742	0.03126	0.09846	0.19405	0.31692	0.46410	-0.53590	-0.36998	-0.19061
0.9	0.00000	-0.05554	-0.07958	-0.07153	-0.03006	0.04674	0.16104	0.31449	-0.50717	-0.49283	-0.26344
1.0	0.00000	-0.09132	-0.14848	-0.17046	-0.15489	-0.09787	0.00589	0.16253	0.37805	0.65683	0.00000
1.0	0.00000	-0.12649	-0.21635	-0.26815	-0.27849	-0.24150	-0.14881	0.01017	0.24728	0.57416	1.00000

L.1 = 2,2

ϵ_{ym}

$a/l \backslash X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.22057	0.13650	0.07134	0.02301	-0.01126	-0.03458	-0.04992	-0.05996	-0.06691	-0.07241	-0.07751
0.1	0.21218	0.13770	0.07224	0.02365	-0.01084	-0.03435	-0.04986	-0.06004	-0.06712	-0.07275	-0.07796
0.2	0.19203	0.13565	0.07836	0.02809	-0.00788	-0.03267	-0.04929	-0.06044	-0.06839	-0.07485	-0.08088
0.3	0.16679	0.12594	0.08427	0.03993	0.00026	-0.02778	-0.04724	-0.06092	-0.07119	-0.07986	-0.08807
0.4	0.14122	0.11288	0.08383	0.05243	0.01623	-0.01757	-0.04235	-0.06075	-0.07538	-0.08822	-0.10054
0.5	0.11851	0.09961	0.08010	0.05855	0.03276	0.02000	-0.03276	-0.05855	-0.08010	-0.09961	-0.11851
0.6	0.10054	0.08822	0.07538	0.06075	0.04236	0.01767	-0.01623	-0.05243	-0.08383	-0.11288	-0.14122
0.7	0.08806	0.07986	0.07120	0.06093	0.04725	0.02780	-0.00025	-0.03993	-0.06427	-0.12594	-0.16679
0.8	0.08088	0.07485	0.06839	0.06044	0.04929	0.03267	0.00788	-0.02811	-0.07836	-0.13565	-0.19203
0.9	0.07796	0.07275	0.06712	0.06004	0.04986	0.03435	0.01883	-0.02367	-0.07224	-0.13770	-0.21218
1.0	0.07751	0.07241	0.06691	0.05996	0.04992	0.03457	0.01125	-0.02303	-0.07134	-0.13650	-0.22057

ϵ_{QM}

$a/l \backslash X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	0.82900	1.30881	1.52381	1.54651	1.43540	1.23498	0.97597	0.67792	0.35124	0.00000
0.1	0.00000	0.81972	1.30444	1.52305	1.54823	1.43869	1.23884	0.97977	0.68104	0.35308	0.00000
0.2	0.00000	0.76772	1.26975	1.51322	1.55544	1.45668	1.26205	1.00337	0.70071	0.35484	0.00000
0.3	0.00000	0.68583	1.17889	1.47135	1.56231	1.49134	1.31325	1.05808	0.74764	0.39342	0.00000
0.4	0.00000	0.59531	1.05665	1.37720	1.54046	1.53290	1.38927	1.14581	0.82588	0.44924	0.00000
0.5	0.00000	0.51103	0.93242	1.25847	1.47453	1.55456	1.47453	1.25847	0.93248	0.51103	0.00000
0.6	0.00000	0.44224	0.82598	1.14581	1.38927	1.53290	1.54245	1.37720	1.05665	0.59531	0.00000
0.7	0.00000	0.39342	0.74764	1.05808	1.31326	1.49184	1.56031	1.47135	1.17889	0.68583	0.00000
0.8	0.00000	0.36484	0.70071	1.00337	1.26205	1.45668	1.55544	1.51302	1.26975	0.76772	0.00000
0.9	0.00000	0.35308	0.68104	0.97977	1.23984	1.43869	1.54023	1.52385	1.30444	0.81972	0.00000
1.0	0.00000	0.35124	0.67792	0.97597	1.23498	1.43540	1.54651	1.52381	1.30881	0.82900	0.00000

ϵ_{MM}

$a/l \backslash X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000										
0.1	-1.00000	-0.95526	-0.84583	-0.70233	-0.54746	-0.39745	-0.26334	-0.15240	-0.06943	-0.01776	0.00000
0.2	0.00000	0.04389	-0.95611	-0.84734	-0.70409	-0.54917	-0.39890	-0.26442	-0.15310	-0.06978	-0.01786
0.3	0.00000	0.04059	0.14470	-0.85530	-0.71422	-0.55938	-0.40781	-0.27122	-0.15752	-0.07201	-0.01848
0.4	0.00000	0.03087	0.11460	0.26499	-0.73501	-0.58186	-0.42817	-0.28717	-0.16807	-0.07738	-0.01999
0.5	0.00000	0.02629	0.09922	0.20961	0.34727	-0.61519	-0.46019	-0.31312	-0.18565	-0.08650	-0.02259
0.6	0.00000	0.02259	0.08650	0.18565	0.31313	0.46020	-0.50000	-0.34727	-0.20961	-0.09922	-0.02629
0.7	0.00000	0.01999	0.07738	0.16807	0.28717	0.42818	0.58188	-0.38482	-0.23752	-0.11460	-0.03087
0.8	0.00000	0.01848	0.07201	0.15752	0.27122	0.40781	0.55938	-0.26499	0.71421	-0.13075	-0.03589
0.9	0.00000	0.01786	0.06978	0.15310	0.26442	0.39890	0.54917	0.70408	0.84734	-0.14470	-0.04059
1.0	0.00000	0.01776	0.06943	0.15240	0.26334	0.39746	0.54746	0.70231	0.84583	0.95526	1.00000

L.l = 2,4

ξ_{yp}

$a/l \backslash X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.15181	0.11659	0.08432	0.05655	0.03371	0.01546	0.00100	-0.01065	-0.02054	-0.02954	-0.03828
0.1	0.11659	0.09567	0.07459	0.05470	0.03703	0.02189	0.00910	-0.00186	-0.01158	-0.02066	-0.02954
0.2	0.08432	0.07459	0.06423	0.05241	0.04008	0.02819	0.01715	0.00699	-0.00249	-0.01158	-0.02054
0.3	0.05655	0.05470	0.05241	0.04859	0.04213	0.03394	0.02502	0.01596	0.00699	-0.00186	-0.01065
0.4	0.03371	0.03703	0.04008	0.04213	0.04193	0.03834	0.03232	0.02502	0.01715	0.00910	0.00100
0.5	0.01546	0.02189	0.02819	0.03394	0.03834	0.04016	0.03834	0.03394	0.02819	0.02189	0.01546
0.6	0.00100	0.00910	0.01715	0.02502	0.03232	0.03834	0.04193	0.04213	0.04008	0.03703	0.03371
0.7	-0.01065	-0.00186	0.00699	0.01596	0.02502	0.03394	0.04213	0.04859	0.05241	0.05470	0.05655
0.8	-0.02054	-0.01158	-0.00249	0.00699	0.01715	0.02819	0.04008	0.05241	0.06423	0.07459	0.08432
0.9	-0.02954	-0.02066	-0.01158	-0.00186	0.00910	0.02189	0.03703	0.05470	0.07459	0.09567	0.11659
1.0	-0.03828	-0.02954	-0.02054	-0.01065	0.00100	0.01546	0.03371	0.05655	0.08432	0.11659	0.15181

ξ_{MP}

$a/l \backslash X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	-0.07679	-0.11481	-0.12472	-0.11574	-0.09545	-0.06992	-0.04396	-0.02153	-0.00597	0.00000
0.1	0.00000	0.01819	-0.03189	-0.05719	-0.06428	-0.05901	-0.04542	-0.03075	-0.01567	-0.00441	0.00000
0.2	0.00000	0.01345	0.05164	0.01128	-0.01310	-0.02195	-0.02245	-0.01723	-0.00965	-0.00291	0.00000
0.3	0.00000	0.00928	0.03573	0.00145	0.04326	0.01702	0.00290	-0.00275	-0.00310	-0.00128	0.00000
0.4	0.00000	0.00578	0.02383	0.05516	0.10040	0.05946	0.03116	0.01356	0.00424	0.00061	0.00000
0.5	0.00000	0.00292	0.01310	0.03262	0.06336	0.10676	0.06336	0.03262	0.01310	0.00292	0.00000
0.6	0.00000	0.00061	0.00424	0.01356	0.03116	0.05946	0.10040	0.05516	0.02383	0.00578	0.00000
0.7	0.00000	-0.00128	-0.00310	-0.00310	0.00290	0.01702	0.04226	0.06145	0.03570	0.00928	0.00000
0.8	0.00000	-0.00291	-0.00365	-0.01723	-0.02245	-0.02195	-0.01210	0.01108	0.05154	0.01345	0.00000
0.9	0.00000	-0.00441	-0.01567	-0.03775	-0.04642	-0.05901	-0.06428	-0.05719	-0.03189	0.01819	0.00000
1.0	0.00000	-0.00587	-0.02153	-0.04396	-0.06992	-0.09545	-0.11574	-0.12472	-0.11481	-0.07679	0.00000

ξ_{QP}

$a/l \backslash X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000										
0.1	-1.00000	-0.55523	-0.22303	0.00932	0.15774	0.23810	0.26448	0.24784	0.19574	0.11252	0.00000
0.2	0.00000	0.35219	-0.64781	-0.36547	-0.15152	-0.00001	0.09702	0.14784	0.15942	0.13687	0.08329
0.3	0.00000	0.26366	0.49429	-0.50571	-0.31190	-0.15847	-0.04543	0.02954	0.06937	0.07669	0.05329
0.4	0.00000	0.18458	0.36249	0.53067	-0.31190	-0.15847	-0.04543	0.02954	0.06937	0.07669	0.05329
0.5	0.00000	0.11737	0.24543	0.38224	-0.46933	-0.31815	-0.19165	-0.09375	-0.02577	0.01227	0.02076
0.6	0.00000	0.06197	0.14514	0.24844	0.36886	0.50000	0.50000	-0.22575	-0.13039	-0.06033	-0.01676
0.7	0.00000	0.01675	0.06032	0.13037	0.22573	0.34344	0.47746	-0.22575	-0.38224	-0.24543	-0.11737
0.8	0.00000	-0.02076	-0.01227	0.02577	0.09375	0.19166	0.31816	-0.38224	-0.53067	-0.36249	-0.18458
0.9	0.00000	-0.08329	-0.07669	-0.06937	-0.02954	0.04543	0.15849	0.31190	-0.53067	-0.36249	-0.18458
1.0	0.00000	-0.11252	-0.19574	-0.24784	-0.26448	-0.23809	-0.15771	-0.00932	0.22302	0.55523	1.00000

L1=2.4

ξ_{ym}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.17900	0.10429	0.04845	0.00913	-0.01671	-0.03224	-0.04047	-0.04396	-0.04475	-0.04433	-0.04357
0.1	0.17058	0.10552	0.04935	0.00975	-0.01633	-0.03206	-0.04043	-0.04405	-0.04436	-0.04463	-0.04397
0.2	0.15086	0.10368	0.05548	0.01405	-0.01358	-0.03059	-0.04002	-0.04451	-0.04617	-0.04655	-0.04657
0.3	0.12652	0.09441	0.06143	0.02559	-0.00591	-0.02619	-0.03836	-0.04517	-0.04888	-0.05116	-0.05304
0.4	0.10223	0.08201	0.06107	0.03771	0.00942	-0.01679	-0.03404	-0.04525	-0.05291	-0.05889	-0.06440
0.5	0.08098	0.06952	0.05740	0.04342	0.02518	0.00000	-0.02518	-0.04342	-0.05740	-0.06952	-0.08098
0.6	0.06440	0.05889	0.05291	0.04517	0.03404	0.02518	-0.00942	-0.03771	-0.06107	-0.08201	-0.10223
0.7	0.05304	0.05116	0.04888	0.04517	0.03836	0.02619	0.00591	-0.02559	-0.06143	-0.09441	-0.12652
0.8	0.04657	0.04655	0.04617	0.04451	0.04002	0.03059	0.01358	-0.01405	-0.05548	-0.10368	-0.15086
0.9	0.04357	0.04463	0.04496	0.04405	0.04043	0.03206	0.01633	-0.00975	-0.04935	-0.10552	-0.17058
1.0	0.04357	0.04433	0.04475	0.04396	0.04047	0.03224	0.01671	-0.00913	-0.04845	-0.10429	-0.17900

ξ_{QM}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	0.92898	1.42583	1.60853	1.57682	1.40959	1.16507	0.88297	0.58763	0.29169	0.00000
0.1	0.00000	0.91618	1.42011	1.60785	1.57944	1.41408	1.17027	0.88796	0.59164	0.29402	0.00000
0.2	0.00000	0.84466	1.37376	1.59595	1.59078	1.43924	1.20155	0.91900	0.61706	0.30902	0.00000
0.3	0.00000	0.73314	1.25111	1.54209	1.60031	1.48850	1.27066	0.99127	0.67807	0.34575	0.00000
0.4	0.00000	0.61138	1.08687	1.41655	1.57641	1.54613	1.37335	1.10765	0.78058	0.40912	0.00000
0.5	0.00000	0.49941	0.92139	1.25779	1.48842	1.57662	1.48842	1.25779	0.92139	0.49941	0.00000
0.6	0.00000	0.40912	0.78058	1.10765	1.37335	1.54613	1.57641	1.41655	1.08687	0.61138	0.00000
0.7	0.00000	0.34575	0.67807	0.99127	1.27066	1.48850	1.60031	1.54209	1.25111	0.73314	0.00000
0.8	0.00000	0.30902	0.61706	0.91900	1.20155	1.43924	1.59078	1.59595	1.37376	0.84466	0.00000
0.9	0.00000	0.29402	0.59164	0.88796	1.17027	1.41408	1.57944	1.60785	1.42011	0.91618	0.00000
1.0	0.00000	0.29169	0.58763	0.88297	1.16507	1.40959	1.57682	1.60853	1.42583	0.92898	0.00000

ξ_{MM}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000										
0.1	-1.00000	-0.94942	-0.82950	-0.67471	-0.51401	-0.36363	-0.23465	-0.13206	-0.05848	-0.01454	0.00000
0.2	0.00000	0.04941	-0.95059	-0.83068	-0.67709	-0.51628	-0.36574	-0.23607	-0.13296	-0.05890	-0.01466
0.3	0.00000	0.04484	0.15843	-0.84158	-0.69080	-0.52994	-0.37750	-0.24094	-0.13867	-0.06179	-0.01545
0.4	0.00000	0.033843	0.13947	0.28111	-0.71689	-0.56003	-0.40448	-0.26585	-0.15238	-0.06871	-0.01739
0.5	0.00000	0.03169	0.11776	0.24422	0.39543	-0.60456	-0.44599	-0.30009	-0.17541	-0.08058	-0.02076
0.6	0.00000	0.02560	0.09731	0.20704	0.34536	0.50000	-0.52000	-0.34535	-0.20704	-0.09731	-0.02560
0.7	0.00000	0.02076	0.08057	0.17541	0.30008	0.44700	0.60457	-0.39543	-0.24422	-0.11776	-0.03169
0.8	0.00000	0.01739	0.06871	0.15238	0.26585	0.40448	0.56004	0.71689	-0.28111	-0.13947	-0.03843
0.9	0.00000	0.01545	0.06179	0.13867	0.24494	0.37750	0.52994	0.69080	0.84158	-0.15843	-0.04484
1.0	0.00000	0.01454	0.05848	0.13206	0.23465	0.36384	0.51401	0.67471	0.82950	0.94942	1.00000

L.1 = 2,6

 E_{yp}

$a/l \backslash X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.11687	0.08751	0.06104	0.03892	0.02148	0.00832	-0.00136	-0.00853	-0.01413	-0.01896	-0.02356
0.1	0.08751	0.07103	0.05435	0.03879	0.02533	0.01424	0.00531	-0.00192	-0.00805	-0.01359	-0.01896
0.2	0.06104	0.05435	0.04703	0.03824	0.02894	0.02005	0.01197	0.00474	-0.00184	-0.00805	-0.01413
0.3	0.03892	0.03879	0.03824	0.03621	0.03162	0.02537	0.01850	0.01155	0.00474	-0.00192	-0.00853
0.4	0.02148	0.02533	0.02894	0.03162	0.03217	0.02949	0.02456	0.01850	0.01197	0.00531	-0.00136
0.5	0.00832	0.01424	0.02005	0.02537	0.02949	0.03122	0.02949	0.02537	0.02005	0.01424	0.00832
0.6	-0.00136	0.00531	0.01197	0.01850	0.02456	0.02949	0.03217	0.03162	0.02894	0.02533	0.02148
0.7	-0.00853	-0.00192	0.00474	0.01155	0.01850	0.02537	0.03162	0.03621	0.03824	0.03879	0.03892
0.8	-0.01413	-0.00805	-0.00184	0.00474	0.01197	0.02005	0.02894	0.03824	0.04703	0.05435	0.06104
0.9	-0.01896	-0.01359	-0.00805	-0.00192	0.00531	0.01424	0.02533	0.03879	0.05435	0.07103	0.08751
1.0	-0.02356	-0.01896	-0.01413	-0.00853	-0.00136	0.00832	0.02148	0.03892	0.06104	0.08751	0.11687

 E_{MP}

$a/l \backslash X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	-0.07556	-0.11182	-0.11842	-0.10785	-0.09730	-0.08681	-0.07665	-0.06873	-0.06203	0.00000
0.1	0.00000	0.01874	-0.03007	-0.05421	-0.07013	-0.08459	-0.09426	-0.09784	-0.09406	-0.08392	0.00000
0.2	0.00000	0.01344	0.05169	0.01138	-0.01149	-0.02111	-0.02154	-0.01647	-0.00920	-0.00277	0.00000
0.3	0.00000	0.00889	0.03548	0.07950	0.03995	0.01400	0.00121	-0.00392	-0.00377	-0.02145	0.00000
0.4	0.00000	0.00520	0.02197	0.05133	0.09666	0.05515	0.02744	0.01091	0.00282	0.00020	0.00000
0.5	0.00000	0.00235	0.01121	0.03921	0.08876	0.10170	0.08876	0.02931	0.01121	0.00235	0.00000
0.6	0.00000	0.00020	0.00282	0.01091	0.02744	0.05515	0.09666	0.05193	0.02197	0.00520	0.00000
0.7	0.00000	-0.00145	-0.00377	-0.00392	0.00121	0.01400	0.03995	0.07950	0.03548	0.00889	0.00000
0.8	0.00000	-0.00277	-0.00920	-0.01647	-0.02154	-0.02111	-0.01149	0.01138	0.05169	0.01344	0.00000
0.9	0.00000	-0.00392	-0.01405	-0.02784	-0.04246	-0.05459	-0.06013	-0.05401	-0.03007	0.01874	0.00000
1.0	0.00000	-0.00503	-0.01873	-0.03885	-0.06281	-0.09730	-0.10785	-0.11842	-0.11182	-0.07556	0.00000

 E_{QP}

$a/l \backslash X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000										
0.1	-1.00000	-0.53366	-0.19570	0.03093	0.16727	0.23382	0.24856	0.22519	0.17298	0.09719	0.00000
0.2	0.00000	0.36233	-0.63767	-0.35134	-0.13921	0.00645	0.09595	0.13987	0.14708	0.12398	0.07441
0.3	0.00000	0.26372	0.49581	-0.50419	-0.38891	-0.15541	-0.04379	0.02903	0.06692	0.07336	0.05069
0.4	0.00000	0.17761	0.35392	0.52488	-0.47512	-0.31924	-0.18865	-0.08830	-0.01966	0.01750	0.02390
0.5	0.00000	0.10699	0.23117	0.37006	0.51691	-0.48311	-0.34109	-0.21697	-0.11829	-0.04857	-0.00904
0.6	0.00000	0.05156	0.13000	0.23407	0.36008	0.50000	-0.34109	-0.21697	-0.11829	-0.04857	-0.00904
0.7	0.00000	0.00903	0.04854	0.11826	0.21694	0.34106	-0.36009	-0.23408	-0.13000	-0.05157	0.00000
0.8	0.00000	-0.02390	-0.01750	0.01966	0.08830	0.18865	-0.51691	-0.37006	-0.23117	-0.10699	0.00000
0.9	0.00000	-0.05069	-0.07336	-0.06692	-0.02903	0.04380	0.15545	0.30891	0.50419	-0.49581	-0.26372
1.0	0.00000	-0.09719	-0.17298	-0.22519	-0.24857	-0.23381	-0.16721	-0.03093	0.19570	0.53366	1.00000

L.1 = 2,6

ϵ_{ym}

$a/l \backslash X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.14959	0.08211	0.03326	0.00253	-0.01914	-0.02964	-0.03338	-0.03300	-0.03038	-0.02670	-0.02292
0.1	0.14136	0.08338	0.03416	0.00112	-0.01900	-0.02949	-0.03337	-0.03311	-0.03057	-0.02705	-0.02326
0.2	0.12214	0.08177	0.04029	0.00527	-0.01649	-0.02827	-0.03314	-0.03364	-0.03173	-0.02876	-0.02551
0.3	0.09882	0.07301	0.04627	0.01648	-0.00933	-0.02440	-0.03188	-0.03447	-0.03431	-0.03291	-0.03118
0.4	0.07596	0.06136	0.04620	0.02816	0.00525	-0.01581	-0.02820	-0.03405	-0.03817	-0.03995	-0.04131
0.5	0.05634	0.04973	0.04256	0.03342	0.02016	0.00000	-0.02015	-0.03342	-0.04256	-0.04973	-0.05634
0.6	0.04131	0.03996	0.03817	0.03485	0.02821	0.01581	-0.00525	-0.02816	-0.04600	-0.06136	-0.07596
0.7	0.03118	0.03291	0.03431	0.03447	0.03188	0.02440	0.00933	-0.01649	-0.04627	-0.07301	-0.09882
0.8	0.02551	0.02876	0.03173	0.03364	0.03314	0.02827	0.01648	-0.00527	-0.04029	-0.08177	-0.12214
0.9	0.02326	0.02705	0.03057	0.03311	0.03337	0.02949	0.01899	-0.00112	-0.03416	-0.08338	-0.14136
1.0	0.02292	0.02678	0.03038	0.03300	0.03338	0.02964	0.01933	-0.00053	-0.03326	-0.08211	-0.14969

ϵ_{OM}

$a/l \backslash X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	1.04435	1.55816	1.70148	1.60704	1.37715	1.08519	0.77952	0.48875	0.22715	0.00000
0.1	0.00000	1.02729	1.55101	1.70113	1.61091	1.39323	1.09193	0.78579	0.49364	0.22994	0.00000
0.2	0.00000	0.93207	1.49149	1.68029	1.62020	1.41734	1.13252	0.82489	0.52494	0.24806	0.00000
0.3	0.00000	0.78542	1.33189	1.62201	1.64329	1.48425	1.22240	0.91638	0.60066	0.29295	0.00000
0.4	0.00000	0.62768	1.11939	1.46110	1.61879	1.56273	1.35614	1.06458	0.72911	0.37143	0.00000
0.5	0.00000	0.48485	0.90746	1.25689	1.52504	1.60435	1.50584	1.25689	0.90746	0.48485	0.00000
0.6	0.00000	0.37143	0.72911	1.06458	1.35614	1.56273	1.61879	1.46110	1.11939	0.62768	0.00000
0.7	0.00000	0.29295	0.52494	0.91638	1.22240	1.48425	1.64329	1.62201	1.33189	0.78542	0.00000
0.8	0.00000	0.24806	0.52494	0.82489	1.22240	1.41734	1.62020	1.60066	1.49149	0.52494	0.00000
0.9	0.00000	0.22994	0.49364	0.78579	1.09193	1.39323	1.61091	1.70113	1.55101	0.22994	0.00000
1.0	0.00000	0.22715	0.48875	0.77952	1.08519	1.37715	1.60704	1.70148	1.55816	0.04435	0.00000

ϵ_{MM}

$a/l \backslash X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000										
0.1	-1.00000	-0.94264	-0.88879	-0.64332	-0.47637	-0.32639	-0.20300	-0.10980	-0.04658	-0.01106	0.00000
0.2	0.00000	0.05578	-0.94422	-0.81156	-0.64644	-0.47930	-0.32880	-0.20476	-0.11089	-0.04712	-0.01121
0.3	0.00000	0.04968	0.17401	-0.82599	-0.66434	-0.49685	-0.34368	-0.21583	-0.11792	-0.05058	-0.01215
0.4	0.00000	0.04124	0.14913	0.29909	-0.70091	-0.53557	-0.37795	-0.24206	-0.13493	-0.05909	-0.01452
0.5	0.00000	0.03250	0.12102	0.25140	0.40713	-0.59287	-0.43218	-0.28531	-0.16377	-0.07384	-0.01867
0.6	0.00000	0.02474	0.09491	0.20382	0.34296	0.50000	-0.50000	-0.34296	-0.20382	-0.09491	-0.02475
0.7	0.00000	0.01867	0.07384	0.16377	0.28531	0.43219	0.59287	0.59287	-0.20382	-0.09491	-0.02475
0.8	0.00000	0.01452	0.05909	0.13493	0.24206	0.37796	0.53558	-0.40713	-0.25140	-0.12102	-0.03250
0.9	0.00000	0.01121	0.04712	0.11089	0.20476	0.32881	0.47931	0.70091	-0.29909	-0.14913	-0.04124
1.0	0.00000	0.01106	0.04658	0.10980	0.20300	0.32640	0.47639	0.64332	0.88879	0.94264	1.00000

L.1 = 2,8

ϵ_{yp}

$a/l \setminus X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.09237	0.06735	0.04516	0.02716	0.01356	0.00391	-0.00261	-0.00691	-0.00986	-0.01215	-0.01426
0.1	0.06735	0.05406	0.04055	0.02808	0.01758	0.00927	0.00294	-0.00187	-0.00569	-0.00900	-0.01215
0.2	0.04516	0.04055	0.03532	0.02862	0.02139	0.01455	0.00849	0.00324	-0.00140	-0.00569	-0.00986
0.3	0.02716	0.02808	0.02862	0.02773	0.02436	0.01943	0.01398	0.00851	0.00324	-0.00187	-0.00691
0.4	0.01356	0.01758	0.02139	0.02436	0.02533	0.02325	0.01910	0.01398	0.00849	0.00294	-0.00261
0.5	0.00391	0.00927	0.01455	0.01943	0.02325	0.02467	0.02365	0.01943	0.01455	0.00927	0.00391
0.6	-0.00261	0.00294	0.00849	0.01398	0.01910	0.02325	0.02533	0.02435	0.02139	0.01758	0.01356
0.7	-0.00691	-0.00187	0.00324	0.00851	0.01398	0.01943	0.02435	0.02773	0.02862	0.02808	0.02716
0.8	-0.00986	-0.00569	-0.00140	0.00324	0.00849	0.01455	0.02139	0.02862	0.03532	0.04055	0.04516
0.9	-0.01215	-0.00900	-0.00569	-0.00187	0.00294	0.00927	0.01758	0.02808	0.04055	0.05406	0.06735
1.0	-0.01426	-0.01215	-0.00986	-0.00691	-0.00391	0.00391	0.01356	0.02716	0.04516	0.06735	0.09237

ϵ_{MP}

$a/l \setminus X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	-0.07422	-0.10689	-0.11150	-0.09936	-0.07850	-0.05528	-0.03345	-0.01579	-0.00417	0.00000
0.1	0.00000	0.01934	-0.02811	-0.05058	-0.05569	-0.04987	-0.03825	-0.02475	-0.01235	-0.00341	0.00000
0.2	0.00000	0.01341	0.05172	0.01155	-0.01086	-0.02019	-0.02054	-0.01563	-0.00869	-0.00260	0.00000
0.3	0.00000	0.00844	0.03413	0.07734	0.03745	0.01245	-0.00063	-0.00512	-0.00436	-0.00161	0.00000
0.4	0.00000	0.00458	0.01996	0.04844	0.09182	0.05055	0.02350	0.00813	0.00134	-0.00023	0.00000
0.5	0.00000	0.00175	0.00920	0.02557	0.05384	0.09628	0.05384	0.02557	0.00920	0.00175	0.00000
0.6	0.00000	-0.00023	0.00134	0.00813	0.02350	0.05055	0.09182	0.04844	0.01996	0.00458	0.00000
0.7	0.00000	-0.00161	-0.00436	-0.00512	-0.00063	0.01245	0.03745	0.07734	0.03413	0.00844	0.00000
0.8	0.00000	-0.00260	-0.00869	-0.01563	-0.02054	-0.02019	-0.01086	0.01165	0.05172	0.01341	0.00000
0.9	0.00000	-0.00341	-0.01235	-0.02475	-0.02825	-0.04987	-0.05528	-0.05569	-0.02811	0.01934	0.00000
1.0	0.00000	-0.00417	-0.01579	-0.03345	-0.05528	-0.07850	-0.09936	-0.11150	-0.10689	-0.07422	0.00000

ϵ_{QP}

$a/l \setminus X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000										
0.1	-0.99998	-0.51001	-0.16617	0.05380	0.17674	0.22859	0.23119	0.20103	0.14901	0.08119	0.00000
0.2	0.00000	0.37324	-0.62676	-0.33615	-0.12606	0.01318	0.09463	0.13125	0.13389	0.11029	0.06502
0.3	0.00000	0.26350	0.49730	-0.50270	-0.30559	-0.15192	-0.04179	0.02860	0.06427	0.06967	0.04778
0.4	0.00000	0.16982	0.34448	0.51876	-0.48124	-0.32003	-0.18496	-0.08219	-0.01316	0.02285	0.02699
0.5	0.00000	0.09573	0.21574	0.35700	0.51111	-0.48889	-0.33815	-0.20725	-0.10529	-0.03615	-0.00101
0.6	0.00000	0.04052	0.11384	0.21863	0.35060	0.50000	-0.50001	-0.35061	-0.21864	-0.11385	-0.04052
0.7	0.00000	0.00101	0.03615	0.10529	0.20725	0.33815	0.48889	-0.51111	-0.35700	-0.21574	-0.09573
0.8	0.00000	-0.02699	-0.02285	0.01316	0.08220	0.18497	0.32003	0.48124	-0.51876	-0.34448	-0.16982
0.9	0.00000	-0.04778	-0.06967	-0.06427	-0.02860	0.04180	0.15192	0.30559	0.50270	-0.49730	-0.26350
1.0	0.00000	-0.06502	-0.11029	-0.13389	-0.13125	-0.09462	-0.01318	0.12606	0.33615	0.62676	-0.37324
1.0	0.00000	-0.08119	-0.14902	-0.20104	-0.23119	-0.22858	-0.17674	-0.05380	0.16616	0.51001	1.00000

L1 = 2,8

ϵ_{ym}

X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.12798	0.06612	0.02282	-0.00478	-0.02020	-0.02687	-0.02774	-0.02517	-0.02081	-0.01572	-0.01045
0.1	0.11974	0.06743	0.02372	-0.00422	-0.01990	-0.02675	-0.02777	-0.02528	-0.02039	-0.01595	-0.01073
0.2	0.10106	0.06607	0.02985	-0.00226	-0.01765	-0.02579	-0.02771	-0.02589	-0.02248	-0.01745	-0.01261
0.3	0.07884	0.05785	0.03585	0.01060	-0.01105	-0.02248	-0.02688	-0.02689	-0.02452	-0.02112	-0.01745
0.4	0.05755	0.04699	0.03568	0.02181	0.00272	-0.01477	-0.02389	-0.02758	-0.02820	-0.02743	-0.02627
0.5	0.03966	0.03630	0.03239	0.02657	0.01670	0.00000	-0.01670	-0.02657	-0.03239	-0.03630	-0.03967
0.6	0.02627	0.02743	0.02820	0.02758	0.02389	0.01476	-0.00272	-0.02181	-0.03568	-0.04699	-0.05755
0.7	0.01745	0.02112	0.02452	0.02689	0.02688	0.02248	0.01105	-0.01860	-0.03585	-0.05785	-0.07884
0.8	0.01261	0.01745	0.02288	0.02589	0.02771	0.02578	0.01765	0.00026	-0.02985	-0.06607	-0.10106
0.9	0.01073	0.01595	0.02099	0.02528	0.02777	0.02676	0.01990	0.00422	-0.02372	-0.06743	-0.11974
1.0	0.01045	0.01572	0.02081	0.02517	0.02774	0.02685	0.02020	0.00479	-0.02282	-0.06612	-0.12798

ϵ_{QM}

X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	1.17297	1.70190	1.79844	1.63418	1.33754	0.99730	0.66954	0.38578	-0.16089	0.00000
0.1	0.00000	1.15087	1.69334	1.79881	1.63975	1.34553	1.00575	0.67709	0.39150	0.16405	0.00000
0.2	0.00000	1.02761	1.61956	1.78658	1.66531	1.39251	1.05671	0.72444	0.42829	0.18486	0.00000
0.3	0.00000	0.84049	1.41842	1.70878	1.69382	1.47898	1.16382	0.83595	0.51829	0.23717	0.00000
0.4	0.00000	0.64276	1.15240	1.50959	1.65726	1.58385	1.33858	1.01789	0.67286	0.33017	0.00000
0.5	0.00000	0.46707	0.89238	1.25570	1.52717	1.63842	1.52717	1.25570	0.89038	0.45787	0.00000
0.6	0.00000	0.33017	0.67286	1.01789	1.33858	1.58385	1.65726	1.50959	1.15240	0.84276	0.00000
0.7	0.00000	0.23717	0.51829	0.83595	1.16382	1.47898	1.69382	1.70878	1.41842	0.84049	0.00000
0.8	0.00000	0.18486	0.42829	0.72444	1.05671	1.39251	1.66531	1.78658	1.61956	1.02761	0.00000
0.9	0.00000	0.16405	0.39150	0.67709	1.00575	1.34553	1.63975	1.79881	1.69334	1.15087	0.00000
1.0	0.00000	0.16089	0.38578	0.66954	0.99730	1.33754	1.63418	1.79844	1.70190	1.17297	0.00000

ϵ_{MM}

X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000										
0.1	-1.00000	-0.93502	-0.78685	-0.60901	-0.43580	-0.28653	-0.16971	-0.08664	-0.03432	-0.00750	0.00000
0.2	0.00000	0.06290	-0.93710	-0.79042	-0.61295	-0.43942	-0.28945	-0.17180	-0.08792	-0.03493	-0.00767
0.3	0.00000	0.05496	0.19103	-0.80897	-0.63559	-0.46121	-0.30759	-0.18504	-0.09617	-0.03893	-0.00875
0.4	0.00000	0.04417	0.15937	0.31831	-0.68169	-0.50935	-0.34954	-0.21666	-0.11637	-0.04890	-0.01148
0.5	0.00000	0.03322	0.12413	0.25865	0.41944	-0.58056	-0.41625	-0.26925	-0.15106	-0.06646	-0.01639
0.6	0.00000	0.02370	0.09197	0.19987	0.34001	0.50000	-0.50000	-0.34001	-0.19987	-0.09197	-0.02370
0.7	0.00000	0.01639	0.06646	0.15106	0.26925	0.41625	0.58056	-0.41944	-0.25865	-0.12413	-0.03322
0.8	0.00000	0.01148	0.04890	0.11637	0.21666	0.34954	0.50935	0.68169	-0.25865	-0.12413	-0.03322
0.9	0.00000	0.00875	0.03893	0.09617	0.18504	0.30759	0.46121	0.63559	0.80897	-0.19103	-0.05496
1.0	0.00000	0.00750	0.03432	0.08663	0.16971	0.28654	0.43580	0.60900	0.78684	0.93502	1.00000

E_{yp}

$a/l \backslash X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.07456	0.05290	0.03401	0.01913	0.00837	0.00121	-0.00316	-0.00562	-0.00694	-0.00773	-0.00837
0.1	0.05290	0.04201	0.03088	0.02070	0.01235	0.00601	0.00146	-0.00174	-0.00407	-0.00597	-0.00773
0.2	0.03401	0.03088	0.02713	0.02190	0.01614	0.01075	0.00610	0.00221	-0.00110	-0.00407	-0.00694
0.3	0.01913	0.02070	0.02190	0.02174	0.01918	0.01518	0.01073	0.00635	0.00221	-0.00174	-0.00562
0.4	0.00837	0.01235	0.01614	0.01918	0.02037	0.01869	0.01512	0.01073	0.00610	0.00146	-0.00316
0.5	0.00121	0.00601	0.01075	0.01518	0.01869	0.02019	0.01869	0.01518	0.01075	0.00621	0.00121
0.6	-0.00316	0.00146	0.00610	0.01073	0.01512	0.01869	0.02037	0.01918	0.01614	0.01235	0.00837
0.7	-0.00562	-0.00174	0.00221	0.00635	0.01073	0.01518	0.01918	0.02174	0.02190	0.02070	0.01913
0.8	-0.00694	-0.00407	-0.00110	0.00221	0.00610	0.01075	0.01614	0.02190	0.02713	0.03088	0.03401
0.9	-0.00773	-0.00597	-0.00407	-0.00174	0.00146	0.00601	0.01235	0.02070	0.03088	0.04201	0.05290
1.0	-0.00837	-0.00773	-0.00694	-0.00562	-0.00316	0.00121	0.00837	0.01913	0.03401	0.05290	0.07456

E_{MP}

$a/l \backslash X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	-0.07278	-0.10252	-0.10443	-0.09057	-0.06959	-0.04764	-0.02801	-0.01286	-0.00331	0.00000
0.1	0.00000	0.01996	-0.02508	-0.04704	-0.05110	-0.04502	-0.03395	-0.02161	-0.01052	-0.00289	0.00000
0.2	0.00000	0.01336	0.05168	0.01187	-0.01023	-0.01924	-0.01948	-0.01473	-0.00814	-0.00243	0.00000
0.3	0.00000	0.00796	0.03267	0.07503	0.03482	0.01005	-0.00246	-0.00627	-0.00491	-0.00175	0.00000
0.4	0.00000	0.00393	0.01785	0.04480	0.08717	0.04582	0.01948	0.00534	-0.00013	-0.00066	0.00000
0.5	0.00000	0.00114	0.00715	0.02184	0.04877	0.09070	0.04877	0.02184	0.00715	0.00114	0.00000
0.6	0.00000	-0.00066	-0.00013	0.00534	0.01948	0.04582	0.08717	0.04480	0.01785	0.00393	0.00000
0.7	0.00000	-0.00175	-0.00491	-0.00627	-0.00246	0.01005	0.03482	0.07503	0.03267	0.00796	0.00000
0.8	0.00000	-0.00243	-0.00814	-0.01473	-0.01948	-0.01924	-0.01023	0.01187	0.05168	0.01336	0.00000
0.9	0.00000	-0.00289	-0.01052	-0.02161	-0.03395	-0.04502	-0.05110	-0.04704	-0.02508	0.01996	0.00000
1.0	0.00000	-0.00331	-0.01286	-0.02801	-0.04764	-0.06959	-0.09257	-0.10443	-0.10252	-0.07278	0.00000

E_{QP}

$a/l \backslash X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	
0.0	0.00000	-0.99994	-0.48491	-0.13540	0.07696	0.18567	0.22234	0.21286	0.17629	0.12408	0.06525	0.00000
0.1	0.00000	0.38456	-0.61543	-0.32040	-0.11255	0.01997	0.09306	0.12223	0.12034	0.09636	0.05552	0.00000
0.2	0.00000	0.26290	0.49864	-0.50136	-0.30199	-0.14792	-0.03939	0.02830	0.06149	0.06570	0.04463	0.00000
0.3	0.00000	0.16138	0.33443	0.51258	-0.48742	-0.32027	-0.18055	-0.07557	-0.00651	0.02801	0.02983	0.00000
0.4	0.00000	0.08396	0.19964	0.34351	0.50542	-0.49458	-0.33465	-0.19691	-0.09192	-0.02370	0.00689	0.00000
0.5	0.00000	0.02928	0.09727	0.20265	0.34070	0.50000	-0.50001	-0.34072	-0.20267	-0.09729	-0.02929	0.00000
0.6	0.00000	-0.00689	0.02370	0.09192	0.19691	0.33466	0.49458	-0.50542	-0.34351	-0.19964	-0.08396	0.00000
0.7	0.00000	-0.02983	-0.02801	0.00651	0.07557	0.18057	0.32027	0.48742	-0.51258	-0.33443	-0.16138	0.00000
0.8	0.00000	-0.04463	-0.06570	-0.06149	-0.02830	0.03941	0.14792	0.30199	0.50136	-0.49864	-0.26290	0.00000
0.9	0.00000	-0.05552	-0.09636	-0.12034	-0.12223	-0.09304	-0.01997	0.11254	0.32040	0.61544	-0.38456	0.00000
1.0	0.00000	-0.06525	-0.12408	-0.17630	-0.21287	-0.22233	-0.18569	-0.07698	0.13537	0.48490	0.99994	0.00000

E_{ym}

$a/l \backslash X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.11116	0.05411	0.01544	-0.00800	-0.01997	-0.02402	-0.02308	-0.01936	-0.01431	-0.00877	-0.00313
0.1	0.10302	0.05546	0.01634	-0.00748	-0.01972	-0.02395	-0.02313	-0.01948	-0.01447	-0.00897	-0.00335
0.2	0.08491	0.05436	0.02245	-0.00370	-0.01774	-0.02324	-0.02326	-0.02015	-0.01550	-0.01025	-0.00487
0.3	0.06386	0.04670	0.02847	0.00677	-0.01171	-0.02252	-0.02286	-0.02133	-0.01779	-0.01343	-0.00887
0.4	0.04418	0.03666	0.02838	0.01748	0.00122	-0.01369	-0.02055	-0.02231	-0.02126	-0.01899	-0.01638
0.5	0.02809	0.02693	0.02525	0.02173	0.01425	0.00000	-0.01424	-0.02173	-0.02525	-0.02693	-0.02809
0.6	0.01638	0.01899	0.02126	0.02231	0.02055	0.01368	-0.00122	-0.01747	-0.02838	-0.03666	-0.04418
0.7	0.00887	0.01343	0.01779	0.02133	0.02286	0.02051	0.01171	-0.00677	-0.02847	-0.04670	-0.06386
0.8	0.00487	0.01025	0.01550	0.02015	0.02326	0.02324	0.01774	0.00370	-0.02245	-0.05436	-0.08491
0.9	0.00335	0.00897	0.01447	0.01948	0.02313	0.02395	0.01972	0.00748	-0.01634	-0.05546	-0.10302
1.0	0.00313	0.00877	0.01431	0.01936	0.02308	0.02402	0.01997	0.00881	-0.01544	-0.05410	-0.11116

E_{QM}

$a/l \backslash X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	1.31224	1.85257	1.89474	1.65513	1.29027	0.90373	0.55740	0.28366	0.09643	0.00000
0.1	0.00000	1.28428	1.84276	1.89634	1.66292	1.30253	0.91401	0.56617	0.29022	0.09983	0.00000
0.2	0.00000	1.12855	1.75412	1.88706	1.69956	1.35840	0.97612	0.62148	0.33145	0.12252	0.00000
0.3	0.00000	0.89592	1.50755	1.79976	1.74431	1.47254	1.11445	0.75279	0.43420	0.18074	0.00000
0.4	0.00000	0.65511	1.18398	1.56057	1.72135	1.50735	1.32135	0.95900	0.61346	0.28654	0.00000
0.5	0.00000	0.44587	0.86992	1.25416	1.55268	1.67935	1.55268	1.25416	0.86992	0.44587	0.00000
0.6	0.00000	0.28654	0.61346	0.96900	1.32135	1.60735	1.72135	1.56057	1.18398	0.65511	0.00000
0.7	0.00000	0.18074	0.43420	0.75279	1.11445	1.47254	1.74431	1.79976	1.50755	0.89592	0.00000
0.8	0.00000	0.12252	0.33145	0.62148	0.97612	1.35839	1.69956	1.88706	1.75412	1.12855	0.00000
0.9	0.00000	0.09983	0.29022	0.56517	0.91401	1.30253	1.66292	1.89634	1.84276	1.28428	0.00000
1.0	0.00000	0.09643	0.28366	0.55740	0.90373	1.29027	1.65513	1.89474	1.85257	1.31224	0.00000

E_{MM}

$a/l \backslash X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000										
0.1	-1.00000	-0.92670	-0.76325	-0.57273	-0.39363	-0.24580	-0.13624	-0.06369	-0.02232	-0.00406	0.00000
0.2	0.00000	0.07063									
0.3	0.00000	-0.92937	-0.76774	-0.57758	-0.39797	-0.24922	-0.13862	-0.06511	-0.02298	-0.00423	0.00000
0.4	0.00000	0.06055	0.20898								
0.5	0.00000	-0.79102	-0.60544	-0.42422	-0.27057	-0.15386	-0.07440	-0.02739	-0.00540	0.00000	
0.6	0.00000	0.04711	0.16974	0.33803							
0.7	0.00000	-0.66197	-0.48228	-0.32024	-0.19060	-0.09745	-0.03858	-0.00842	0.00000		
0.8	0.00000	0.03377	0.12684	0.26553	0.43181						
0.9	0.00000	-0.56819	-0.39974	-0.25239	-0.13764	-0.05866	-0.01397	0.00000			
1.0	0.00000	0.02245	0.08846	0.19514	0.33648	0.50000					
0.1	0.00000	0.01397	0.05866	0.13764	0.25239	0.39975	0.56819				
0.2	0.00000	-0.43181	-0.26553	-0.19514	-0.08847	-0.02245	0.00000				
0.3	0.00000	0.00842	0.03858	0.09745	0.19060	0.32026	0.48228	0.66197			
0.4	0.00000	-0.26553	-0.12684	-0.03377	0.00000						
0.5	0.00000	0.00540	0.02739	0.07440	0.15386	0.27059	0.42422	0.60544	0.79102		
0.6	0.00000	-0.20898	-0.16974	-0.04711	0.00000						
0.7	0.00000	0.00540	0.02739	0.07440	0.15386	0.24924	0.39797	0.57758	0.76774	0.92937	
0.8	0.00000	0.00423	0.02298	0.06511	0.13863	0.24924	0.39797	0.57758	0.76774	-0.07063	0.00000
0.9	0.00000	0.00406	0.02232	0.06369	0.13624	0.24581	0.39361	0.57272	0.76324	0.92669	1.00000
1.0	0.00000	0.00406	0.02232	0.06369	0.13624	0.24581	0.39361	0.57272	0.76324	0.92669	1.00000

L1 = 3.2

E_{YP}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.05122	0.04225	0.02599	0.01356	0.00496	-0.00038	-0.00328	-0.00456	-0.00492	-0.00486	-0.00468
0.1	0.04225	0.03322	0.02393	0.01550	0.00877	0.00386	0.00255	-0.00157	-0.00295	-0.00396	-0.00486
0.2	0.02599	0.02393	0.02125	0.01710	0.01241	0.00807	0.00642	0.00150	-0.00089	-0.00295	-0.00492
0.3	0.01356	0.01550	0.01710	0.01739	0.01538	0.01204	0.00834	0.00478	0.00150	-0.00157	-0.00456
0.4	0.00496	0.00877	0.01241	0.01538	0.01665	0.01524	0.01212	0.00834	0.00442	0.00255	-0.00328
0.5	-0.00038	0.00386	0.00807	0.01204	0.01204	0.01664	0.01524	0.01204	0.00807	0.00396	-0.00328
0.6	-0.00328	0.00255	0.00442	0.00834	0.01212	0.01524	0.01566	0.01538	0.01241	0.00877	0.00496
0.7	-0.00456	-0.00157	0.00150	0.00478	0.00834	0.01204	0.01538	0.01739	0.01710	0.01550	0.01356
0.8	-0.00492	-0.00295	-0.00088	0.00150	0.00442	0.00807	0.01241	0.01710	0.02125	0.02393	0.02599
0.9	-0.00486	-0.00396	-0.00295	-0.00157	0.00055	0.00386	0.00877	0.01550	0.02393	0.03322	0.04225
1.0	-0.00468	-0.00486	-0.00492	-0.00456	-0.00328	-0.00038	0.00496	0.01356	0.02599	0.04225	0.05122

E_{MP}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	-0.07129	-0.09803	-0.09718	-0.06178	-0.02689	-0.04018	-0.02277	-0.01026	-0.00249	0.00000
0.1	0.00000	0.02058	-0.02404	-0.04349	-0.04653	-0.04222	-0.02971	-0.01853	-0.00893	-0.00239	0.00000
0.2	0.00000	0.01327	0.05158	0.01202	-0.00965	-0.01827	-0.01838	-0.01378	-0.00756	-0.00224	0.00000
0.3	0.00000	0.00745	0.03113	0.07263	0.03215	0.02768	-0.00419	-0.00731	-0.00539	-0.00187	0.00000
0.4	0.00000	0.00327	0.01572	0.04113	0.08252	0.04112	0.01556	0.00265	-0.00152	-0.00105	0.00000
0.5	0.00000	0.00054	0.00513	0.01815	0.04375	0.08516	0.04375	0.01816	0.00513	0.00054	0.00000
0.6	0.00000	-0.00105	-0.00152	0.00265	0.01556	0.04112	0.00252	0.04113	0.01572	0.00327	0.00000
0.7	0.00000	-0.00187	-0.00539	-0.00731	-0.00419	0.00758	0.03215	0.07253	0.03113	0.00745	0.00000
0.8	0.00000	-0.00224	-0.00756	-0.01378	-0.01838	-0.01827	-0.00955	0.01202	0.05158	0.01327	0.00000
0.9	0.00000	-0.00239	-0.00893	-0.01853	-0.02971	-0.04222	-0.04653	-0.04349	-0.02404	0.02058	0.00000
1.0	0.00000	-0.00249	-0.01026	-0.02277	-0.04018	-0.02689	-0.08178	-0.09718	-0.09803	-0.07129	0.00000

E_{OP}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	
0.0	0.00000	-1.00000	-0.45895	-0.10429	0.09955	0.19348	0.21503	0.19410	0.15188	0.10158	0.05007	0.00000
0.1	0.00000	0.39593	-0.50406	-0.30462	-0.09915	0.02649	0.09117	0.11309	0.10689	0.08270	0.04628	0.00000
0.2	0.00000	0.26183	0.49972	-0.50028	-0.29818	-0.14347	-0.03663	0.02819	0.05867	0.06155	0.04131	0.00000
0.3	0.00000	0.15244	0.32399	0.50658	-0.49342	-0.31981	-0.17541	-0.06855	0.00002	0.03272	0.03220	0.00000
0.4	0.00000	0.07202	0.18336	0.33803	0.50012	-0.49988	-0.33856	-0.18617	-0.07862	-0.01171	0.01432	0.00000
0.5	0.00000	0.01828	0.00089	0.18666	0.33869	0.50000	-0.50000	-0.33069	-0.18656	-0.00089	-0.01828	0.00000
0.6	0.00000	-0.01432	0.01171	0.07862	0.18617	0.33056	0.49988	-0.50012	-0.33003	-0.18336	-0.07202	0.00000
0.7	0.00000	-0.03220	-0.03272	-0.00002	0.06855	0.17541	0.31981	0.49342	-0.50658	-0.32399	-0.15244	0.00000
0.8	0.00000	-0.04131	-0.06155	-0.05867	-0.02819	0.03663	0.14346	0.29818	0.50028	-0.49972	-0.26183	0.00000
0.9	0.00000	-0.04628	-0.08271	-0.10689	-0.11309	-0.09118	-0.02650	0.09914	0.30461	0.60407	-0.39593	0.00000
1.0	0.00000	-0.05007	-0.10158	-0.15188	-0.19409	-0.21503	-0.19348	-0.09955	0.10429	0.45897	1.00000	0.00000

E_{YM}

X/l a/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.09766	0.04477	0.01009	-0.00986	-0.01908	-0.02120	-0.01914	-0.01493	-0.00982	-0.00446	0.00093
0.1	0.09963	0.04618	0.01098	-0.00937	-0.01887	-0.02118	-0.01922	-0.01506	-0.00998	-0.00463	0.00077
0.2	0.07211	0.04533	0.01707	-0.00580	-0.01716	-0.02071	-0.01952	-0.01578	-0.01092	-0.00570	-0.00040
0.3	0.05225	0.03824	0.02309	0.00427	-0.01172	-0.01856	-0.01952	-0.01711	-0.01306	-0.00840	-0.00360
0.4	0.03420	0.02903	0.02307	0.01446	0.00036	-0.01261	-0.01787	-0.01837	-0.01633	-0.01322	-0.00983
0.5	0.01990	0.02024	0.02010	0.01020	0.01245	0.00000	-0.01245	-0.01820	-0.02010	-0.02024	-0.01990
0.6	0.00983	0.01322	0.01633	0.01837	0.01787	0.01261	-0.02036	-0.01446	-0.02307	-0.02903	-0.03420
0.7	0.00350	0.00840	0.01305	0.01711	0.01952	0.01856	0.01172	-0.00427	-0.02309	-0.03024	-0.03225
0.8	0.00040	0.00570	0.01092	0.01578	0.01952	0.02071	0.01716	0.00580	-0.01707	-0.04533	-0.07211
0.9	-0.00093	0.00463	0.00998	0.01506	0.01922	0.02118	0.01887	0.00998	-0.01098	-0.04618	-0.09963
1.0	-0.00093	0.00446	0.00982	0.01493	0.01914	0.02120	0.01928	0.00986	-0.01009	-0.04478	-0.09766

E_{OM}

X/l a/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	1.45954	2.00574	1.98586	1.66702	1.23511	0.80691	0.44733	0.18699	0.03704	0.00000
0.1	0.00000	1.42491	1.99494	1.98935	1.67763	1.24799	0.91906	0.45716	0.19376	0.04047	0.00000
0.2	0.00000	1.23218	1.89140	1.98598	1.72854	1.32075	0.89201	0.51969	0.23852	0.06398	0.00000
0.3	0.00000	0.94937	1.59624	1.89245	1.79523	1.46483	1.05777	0.66963	0.35152	0.12593	0.00000
0.4	0.00000	0.66333	1.21228	1.61268	1.78055	1.63579	1.30548	0.91929	0.55251	0.24173	0.00000
0.5	0.00000	0.42114	0.84590	1.25210	1.58253	1.72752	1.58253	1.25218	0.84590	0.42114	0.00000
0.6	0.00000	0.24173	0.55251	0.91929	1.30548	1.63579	1.78055	1.61268	1.21228	0.66333	0.00000
0.7	0.00000	0.12593	0.35152	0.66363	1.05777	1.46483	1.79523	1.89245	1.59624	0.94937	0.00000
0.8	0.00000	0.06398	0.23852	0.51969	0.89201	1.32075	1.72854	1.98598	1.89140	1.23218	0.00000
0.9	0.00000	0.04047	0.19376	0.45716	0.81926	1.24798	1.67763	1.98935	1.99494	1.42491	0.00000
1.0	0.00000	0.03704	0.18699	0.44733	0.80691	1.23511	1.66702	1.98586	2.00574	1.45954	0.00000

E_{MM}

X/l a/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000										
0.1	-1.00000	-0.91780	-0.73847	-0.53542	-0.35117	-0.20570	-0.10396	-0.04200	-0.01117	-0.00091	0.00000
0.2	0.00000	0.07884	-0.92116	-0.74404	-0.54128	-0.35628	-0.20960	-0.10659	-0.04352	-0.01186	-0.00108
0.3	0.00000	0.06628	0.22739	-0.77261	-0.57475	-0.38705	-0.23398	-0.12351	-0.05354	-0.01648	-0.00227
0.4	0.00000	0.04991	0.17983	0.35755	-0.64245	-0.45529	-0.29110	-0.16480	-0.07886	-0.02851	-0.00546
0.5	0.00000	0.03407	0.12888	0.27163	0.44374	-0.55626	-0.38318	-0.23520	-0.12389	-0.05066	-0.01149
0.6	0.00000	0.02100	0.08437	0.18960	0.33233	0.50000	-0.50000	-0.33233	-0.18960	-0.08437	-0.02100
0.7	0.00000	0.01149	0.05066	0.12389	0.23521	0.38318	0.55626	-0.44374	-0.27163	-0.12888	-0.03407
0.8	0.00000	0.00546	0.02851	0.07886	0.16481	0.29110	0.45529	0.64245	-0.35755	-0.17983	-0.04991
0.9	0.00000	0.00227	0.01648	0.05354	0.12351	0.23398	0.38705	0.57475	0.77261	-0.22739	-0.06628
1.0	0.00000	0.00091	0.01117	0.04200	0.10397	0.20570	0.35117	0.53542	0.73847	0.91779	1.00000

L.1 = 3,4

ϵ_{yp}

$a/l \backslash X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.05096	0.03421	0.02009	0.00963	0.00273	-0.00126	-0.00315	-0.00369	-0.00350	-0.00300	-0.00242
0.1	0.03421	0.02666	0.01882	0.01178	0.00620	0.00244	0.00001	-0.00139	-0.00216	-0.00262	-0.00300
0.2	0.02009	0.01882	0.01694	0.01359	0.00970	0.00613	0.00323	0.00100	-0.00072	-0.00216	-0.00350
0.3	0.00963	0.01178	0.01359	0.01416	0.01253	0.00967	0.00654	0.00361	0.00100	-0.00139	-0.00369
0.4	0.00273	0.00620	0.00970	0.01253	0.01381	0.01257	0.00981	0.00654	0.00323	0.00001	-0.00315
0.5	-0.00126	0.00244	0.00613	0.00967	0.01257	0.01386	0.01257	0.00967	0.00613	0.00244	-0.00126
0.6	-0.00315	0.00001	0.00323	0.00654	0.00981	0.01257	0.01381	0.01253	0.00970	0.00628	0.00273
0.7	-0.00369	-0.00139	0.00100	0.00361	0.00654	0.00967	0.01253	0.01416	0.01359	0.01178	0.00963
0.8	-0.00350	-0.00216	-0.00072	0.00100	0.00323	0.00613	0.00970	0.01359	0.01694	0.01882	0.02009
0.9	-0.00300	-0.00262	-0.00216	-0.00139	0.00001	0.00244	0.00628	0.01178	0.01882	0.02666	0.03421
1.0	-0.00242	-0.00300	-0.00350	-0.00369	-0.00315	-0.00126	0.00273	0.00963	0.02009	0.03421	0.05096

ϵ_{MP}

$a/l \backslash X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	-0.06977	-0.03352	-0.00000	-0.07322	-0.05246	-0.03315	-0.01790	-0.00750	-0.00175	0.00000
0.1	0.00000	0.02119	-0.02204	-0.04003	-0.04212	-0.03560	-0.02567	-0.01562	-0.00734	-0.00192	0.00000
0.2	0.00000	0.01315	0.05139	0.01206	-0.00512	-0.01733	-0.01726	-0.01291	-0.00595	-0.00204	0.00000
0.3	0.00000	0.00692	0.00954	0.07019	0.02950	0.00542	-0.00577	-0.00819	-0.00576	-0.00195	0.00000
0.4	0.00000	0.00262	0.01361	0.03751	0.07798	0.02660	0.01186	0.00017	-0.00278	-0.00142	0.00000
0.5	0.00000	-0.00202	0.00322	0.01464	0.03091	0.07701	0.03991	0.01464	0.00322	-0.00202	0.00000
0.6	0.00000	-0.00140	-0.00379	0.00017	0.01186	0.03991	0.07701	0.03751	0.01361	0.00262	0.00000
0.7	0.00000	-0.00195	-0.00576	-0.00819	-0.01291	0.00595	0.00819	0.01562	0.02204	0.00192	0.00000
0.8	0.00000	-0.00204	-0.00692	-0.01206	-0.01733	-0.01733	-0.00577	0.01562	0.02119	0.01315	0.00000
0.9	0.00000	-0.00192	-0.00734	-0.01562	-0.02567	-0.03560	-0.04212	-0.04212	-0.02204	-0.00192	0.00000
1.0	0.00000	-0.00175	-0.00352	-0.01790	-0.03315	-0.05246	-0.07322	-0.09000	-0.09352	-0.06977	0.00000

ϵ_{QP}

$a/l \backslash X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000										
0.1	-1.00000	-0.43268	-0.07372	0.12073	0.19966	0.20666	0.17533	0.12853	0.07990	0.03624	0.00000
0.2	0.00000	0.40702	-0.59295	-0.08626	0.03251	0.08903	0.10406	0.09396	0.06977	0.03762	0.00000
0.3	0.00000	0.26021	0.50047	-0.28923	-0.08626	0.08903	0.10406	0.09396	0.06977	0.03762	0.00000
0.4	0.00000	0.14315	0.31338	0.50097	-0.29421	-0.13859	-0.03345	0.02829	0.05585	0.05728	0.00000
0.5	0.00000	0.06023	0.16732	0.31694	0.50097	-0.49903	-0.31851	-0.16948	-0.06126	0.00623	0.03673
0.6	0.00000	0.0023	0.16732	0.31694	0.49544	-0.50456	-0.32583	-0.17524	-0.06576	-0.00059	0.02096
0.7	0.00000	0.00788	0.06520	0.17109	0.32000	0.50000	-0.50000	-0.32079	-0.17109	-0.06519	-0.00788
0.8	0.00000	0.00788	0.06520	0.17109	0.32000	0.50000	-0.50000	-0.32079	-0.17109	-0.06519	-0.00788
0.9	0.00000	-0.02096	0.00059	0.06576	0.17524	0.32583	0.50456	-0.49544	-0.31695	-0.16733	-0.06023
1.0	0.00000	-0.03397	-0.03673	-0.00623	0.06127	0.16948	0.31851	0.49903	-0.50097	-0.31338	-0.14315
0.1	0.00000	0.40702	-0.59295	-0.08626	0.03251	0.08903	0.10406	0.09396	0.06977	0.03762	0.00000
0.2	0.00000	0.26021	0.50047	-0.28923	-0.08626	0.08903	0.10406	0.09396	0.06977	0.03762	0.00000
0.3	0.00000	0.14315	0.31338	0.50097	-0.29421	-0.13859	-0.03345	0.02829	0.05585	0.05728	0.00000
0.4	0.00000	0.06023	0.16732	0.31694	0.49544	-0.50456	-0.32583	-0.17524	-0.06576	-0.00059	0.02096
0.5	0.00000	0.0023	0.16732	0.31694	0.49544	-0.50456	-0.32583	-0.17524	-0.06576	-0.00059	0.02096
0.6	0.00000	0.00788	0.06520	0.17109	0.32000	0.50000	-0.50000	-0.32079	-0.17109	-0.06519	-0.00788
0.7	0.00000	0.00788	0.06520	0.17109	0.32000	0.50000	-0.50000	-0.32079	-0.17109	-0.06519	-0.00788
0.8	0.00000	-0.02096	0.00059	0.06576	0.17524	0.32583	0.50456	-0.49544	-0.31695	-0.16733	-0.06023
0.9	0.00000	-0.03397	-0.03673	-0.00623	0.06127	0.16948	0.31851	0.49903	-0.50097	-0.31338	-0.14315
1.0	0.00000	-0.03624	-0.07990	-0.12853	-0.17533	-0.20666	-0.19966	-0.12073	0.07373	0.43276	1.00000

L.I = 3,4

E_{ym}

X/l a/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.08555	0.03734	0.00614	-0.01083	-0.01782	-0.01950	-0.01577	-0.01148	-0.00670	-0.00186	0.00296
0.1	0.07863	0.03879	0.00703	-0.01037	-0.01764	-0.01851	-0.01587	-0.01162	-0.00684	-0.00199	0.00284
0.2	0.06171	0.03820	0.01309	-0.00701	-0.01619	-0.01829	-0.01632	-0.01239	-0.00771	-0.00286	0.00199
0.3	0.04383	0.03165	0.01928	0.00265	-0.01133	-0.01668	-0.01669	-0.01383	-0.00969	-0.00512	-0.00047
0.4	0.02658	0.02324	0.01912	0.01231	-0.00208	-0.01157	-0.01567	-0.01534	-0.01274	-0.00923	-0.00550
0.5	0.01400	0.01538	0.01630	0.01556	0.01108	0.00800	-0.01108	-0.01556	-0.01630	-0.01538	-0.01400
0.6	0.00550	0.00923	0.01274	0.01534	0.01567	0.01157	0.00800	-0.01231	-0.01912	-0.02324	-0.02658
0.7	0.00047	0.00512	0.00969	0.01383	0.01669	0.01668	0.01133	-0.00265	-0.01928	-0.03165	-0.04383
0.8	-0.00199	0.00286	0.00771	0.01239	0.01632	0.01829	0.01619	0.00701	-0.01309	-0.03820	-0.06171
0.9	-0.00284	0.00199	0.00684	0.01162	0.01587	0.01851	0.01764	0.01148	-0.00771	-0.03079	-0.07863
1.0	-0.00296	0.00186	0.00672	0.01146	0.01577	0.01850	0.01782	0.01083	-0.00670	-0.03735	-0.08556

E_{QM}

X/l a/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	1.51259	2.15749	2.06796	1.66757	1.17209	0.70903	0.34293	0.09357	-0.01470	0.00000
0.1	0.00000	1.57045	2.14612	2.07411	1.69154	1.18789	0.72307	0.35362	0.10647	-0.01144	0.00000
0.2	0.00000	1.33612	2.02816	2.06027	1.75033	1.27749	0.80061	0.42223	0.15291	0.01162	0.00000
0.3	0.00000	0.99800	1.68193	1.98477	1.84529	1.45574	1.00101	0.58879	0.27286	0.07466	0.00000
0.4	0.00000	0.65528	1.23581	1.66474	1.84439	1.66841	1.29147	0.86990	0.49143	0.19686	0.00000
0.5	0.00000	0.39290	0.81827	1.24965	1.61678	1.78317	1.61678	1.24965	0.81827	0.39290	0.00000
0.6	0.00000	0.19686	0.49143	0.86990	1.29147	1.66241	1.84439	1.66474	1.23581	0.65528	0.00000
0.7	0.00000	0.07466	0.27286	0.58879	1.00101	1.45574	1.84529	1.98477	1.68193	0.99800	0.00000
0.8	0.00000	0.01162	0.15291	0.42223	0.80061	1.27749	1.75033	2.06027	2.02816	1.33612	0.00000
0.9	0.00000	-0.01144	0.10647	0.35362	0.72307	1.18789	1.68164	2.07411	2.14612	1.57044	0.00000
1.0	0.00000	-0.01470	0.09357	0.34293	0.70903	1.17209	1.66757	2.06796	2.15749	1.51259	0.00000

E_{MM}

X/l a/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	
0.0	0.00000	-1.00000	-0.90846	-0.71298	-0.49794	-0.30963	-0.16750	-0.07405	-0.02242	-0.00136	0.00181	0.00000
0.1	0.00000	0.08739	-0.91261	-0.71974	-0.50487	-0.31548	-0.17181	-0.07685	-0.02397	-0.00203	0.00165	0.00000
0.2	0.00000	0.07204	0.24583	-0.75417	-0.54429	-0.35073	-0.19888	-0.09502	-0.03436	-0.00665	0.00050	0.00000
0.3	0.00000	0.05247	0.18930	0.37628	-0.62372	-0.42912	-0.26289	-0.14005	-0.06121	-0.01905	-0.00270	0.00000
0.4	0.00000	0.03405	0.13007	0.27668	0.45481	-0.54519	-0.36701	-0.21810	-0.11012	-0.04264	-0.00901	0.00000
0.5	0.00000	0.01934	0.07969	0.18324	0.32755	0.50000	-0.50000	-0.32754	-0.18324	-0.07969	-0.01934	0.00000
0.6	0.00000	0.00901	0.04264	0.11012	0.21811	0.36701	0.54519	-0.45481	-0.27660	-0.13007	-0.03406	0.00000
0.7	0.00000	0.00270	0.01905	0.06121	0.14006	0.26289	0.42912	0.62372	-0.37628	-0.18930	-0.05247	0.00000
0.8	0.00000	-0.00050	0.00665	0.03436	0.09502	0.19888	0.35073	0.54429	0.75417	-0.24583	-0.07204	0.00000
0.9	0.00000	-0.00165	0.00203	0.00684	0.02396	0.07685	0.17180	0.31546	0.50485	0.71972	0.91261	0.00000
1.0	0.00000	-0.00181	0.00136	0.02242	0.07406	0.16750	0.30963	0.49794	0.71298	0.90842	1.00000	0.00000

L1 = 3.6

E_{YP}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.04291	0.02801	0.01569	0.00684	0.00127	-0.00170	-0.00287	-0.00296	-0.00250	-0.00181	-0.00106
0.1	0.02801	0.02167	0.01500	0.00906	0.00454	0.00150	-0.00029	-0.00120	-0.00159	-0.00173	-0.00181
0.2	0.01569	0.01500	0.01372	0.01098	0.00769	0.00471	0.00236	0.00065	-0.00060	-0.00159	-0.00250
0.3	0.00684	0.00906	0.01098	0.01171	0.01034	0.00784	0.00516	0.00273	0.00065	-0.00120	-0.00296
0.4	0.00127	0.00454	0.00769	0.01034	0.01158	0.01047	0.00800	0.00516	0.00236	-0.00029	-0.00287
0.5	-0.00170	0.00150	0.00471	0.00784	0.01047	0.01166	0.01047	0.00784	0.00471	0.00150	-0.00170
0.6	-0.00287	-0.00029	0.00236	0.00516	0.00800	0.01047	0.01158	0.01034	0.00769	0.00454	0.00127
0.7	-0.00296	-0.00120	0.00065	0.00273	0.00516	0.00784	0.01034	0.01171	0.01098	0.00906	0.00684
0.8	-0.00250	-0.00159	-0.00060	0.00065	0.00236	0.00471	0.00769	0.01098	0.01372	0.01500	0.01569
0.9	-0.00181	-0.00173	-0.00159	-0.00120	-0.00029	0.00150	0.00454	0.00906	0.01500	0.02167	0.02801
1.0	-0.00106	-0.00181	-0.00250	-0.00296	-0.00387	-0.00170	0.00127	0.00684	0.01569	0.02801	0.04291

E_{MP}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	-0.06824	-0.09907	-0.08395	-0.06528	-0.04461	-0.02673	-0.01253	-0.00523	-0.00110	0.00000
0.1	0.00000	0.02177	-0.02015	-0.03575	-0.03742	-0.03127	-0.02193	-0.01294	-0.00592	-0.00152	0.00000
0.2	0.00000	0.01299	0.05111	0.01203	-0.02808	-0.01642	-0.01615	-0.01193	-0.00635	-0.00185	0.00000
0.3	0.00000	0.00637	0.02732	0.06775	0.02692	0.00332	-0.00713	-0.00889	-0.00620	-0.00320	0.00000
0.4	0.00000	0.00198	0.01157	0.03402	0.07364	0.03236	0.00046	-0.00203	-0.00396	-0.00169	0.00000
0.5	0.00000	-0.00053	0.00147	0.01137	0.03437	0.07476	0.03437	0.01137	0.00147	-0.00053	0.00000
0.6	0.00000	-0.00169	-0.00386	-0.00203	0.00046	0.03236	0.07364	0.03402	0.01157	0.00198	0.00000
0.7	0.00000	-0.00200	-0.00600	-0.00889	-0.00713	0.00332	0.02692	0.00713	0.00620	0.00320	0.00000
0.8	0.00000	-0.00185	-0.00635	-0.01183	-0.01615	-0.01542	-0.00889	0.01203	0.05111	0.01299	0.00000
0.9	0.00000	-0.00150	-0.00592	-0.01294	-0.02193	-0.03127	-0.03742	-0.03575	-0.02015	0.02177	0.00000
1.0	0.00000	-0.00110	-0.00523	-0.01353	-0.02673	-0.04461	-0.06508	-0.08395	-0.09907	-0.06824	0.00000

E_{OP}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000										
0.1	-1.00000	-0.40669	-0.04430	0.13994	0.20390	0.19728	0.15694	0.10682	0.06045	0.02414	0.00000
0.2	0.00000	0.41759	-0.27453	-0.07414	0.03789	0.08664	0.09534	0.08184	0.05788	0.02977	0.00000
0.3	0.00000	0.25797	0.50085	-0.49915	-0.29012	-0.13332	-0.02989	0.02861	0.05309	0.05298	0.03436
0.4	0.00000	0.13363	0.30278	0.49591	-0.50409	-0.31628	-0.16281	-0.05382	0.01195	0.03990	0.03502
0.5	0.00000	0.04882	0.15184	0.30451	0.49153	-0.50047	-0.31040	-0.16429	-0.05364	0.00933	0.00169
0.6	0.00000	-0.00164	0.05055	0.15628	0.31121	0.50000	-0.50000	-0.31120	-0.15627	-0.05055	0.00164
0.7	0.00000	-0.02659	-0.00933	0.05364	0.16430	0.32048	0.50847	-0.49153	-0.30453	-0.15185	-0.04883
0.8	0.00000	-0.03502	-0.03990	-0.01195	0.05382	0.16281	0.31628	0.50409	-0.49591	-0.30278	-0.13363
0.9	0.00000	-0.03436	-0.05298	-0.05310	-0.02861	0.02989	0.13332	0.29012	0.49915	-0.50085	-0.25797
1.0	0.00000	-0.02977	-0.05788	-0.08184	-0.09533	-0.08664	-0.03789	0.07414	0.27454	0.58241	-0.41759
1.0	0.00000	-0.02414	-0.06045	-0.10682	-0.15694	-0.19728	-0.20390	-0.13994	0.04432	0.40669	1.00000

ϵ_{sym}

$a/l \backslash X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.07725	0.03133	0.00320	-0.01121	-0.01634	-0.01598	-0.01289	-0.00877	-0.00450	-0.00234	0.00374
0.1	0.06944	0.03281	0.00407	-0.01090	-0.01622	-0.01603	-0.01301	-0.00892	-0.00463	-0.00245	0.00367
0.2	0.05311	0.03246	0.01007	-0.00765	-0.01504	-0.01602	-0.01359	-0.00971	-0.00542	-0.00114	0.00309
0.3	0.03359	0.02643	0.01604	0.00150	-0.01073	-0.01491	-0.01429	-0.01124	-0.00724	-0.00298	0.00129
0.4	0.02267	0.01878	0.01611	0.01075	-0.00028	-0.01060	-0.01383	-0.01295	-0.01008	-0.00645	-0.00265
0.5	0.00971	0.01178	0.01343	0.01352	0.01001	0.00000	-0.01001	-0.01352	-0.01343	-0.01178	-0.00971
0.6	0.00265	0.00645	0.01008	0.01295	0.01383	0.01060	0.00028	-0.01075	-0.01611	-0.01878	-0.02267
0.7	-0.00129	0.00298	0.00724	0.01124	0.01429	0.01491	0.01073	-0.00160	-0.01604	-0.02643	-0.03359
0.8	-0.00309	0.00114	0.00542	0.00971	0.01359	0.01602	0.01504	0.00765	-0.01007	-0.03246	-0.05311
0.9	-0.00367	0.00245	0.00463	0.00892	0.01301	0.01603	0.01622	0.01080	-0.00407	-0.03281	-0.06944
1.0	-0.00374	0.00374	0.00450	0.00877	0.01289	0.01598	0.01634	0.01121	-0.00320	-0.03133	-0.07725

ϵ_{OM}

$a/l \backslash X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	1.76955	2.32475	2.13813	1.65923	1.10154	0.41201	0.24692	0.22404	-0.05725	0.00000
0.1	0.00000	1.71907	2.29334	2.14781	1.62715	1.07055	0.32787	0.25819	0.03075	-0.10413	0.00000
0.2	0.00000	1.43847	2.16194	2.16763	1.59387	1.03973	0.20502	0.33144	2.04725	-0.43091	0.00000
0.3	0.00000	1.04258	1.76269	2.07624	1.59389	1.04016	0.04503	0.51197	0.20215	2.12834	0.00000
0.4	0.00000	0.66320	1.25352	1.71592	1.91252	1.70511	1.27959	0.62114	0.43136	0.15285	0.00000
0.5	0.00000	0.36131	0.78706	1.24645	1.65529	1.84628	1.65529	1.24645	0.78708	0.36130	0.00000
0.6	0.00000	0.15285	0.43136	0.82165	1.27959	1.70511	1.91250	1.71592	1.25352	0.66320	0.00000
0.7	0.00000	0.02834	0.20015	0.51197	0.94508	1.44516	1.89359	2.07524	1.76269	1.04257	0.00000
0.8	0.00000	-0.03291	0.07725	0.33144	0.72502	1.22873	1.76357	2.16763	-2.16154	1.43847	0.00000
0.9	0.00000	-0.05419	0.03075	0.25819	0.62787	1.12855	1.67345	2.14781	0.29333	1.71907	0.00000
1.0	0.00000	-0.05725	0.02404	0.24692	0.51201	1.10154	1.65525	2.13813	2.32475	1.76955	0.00000

ϵ_{MM}

$a/l \backslash X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000										
0.1	-1.00000	-0.89868	-0.68711	-0.46095	-0.26986	-0.13214	-0.04732	-0.00554	0.00681	0.00399	0.00000
0.2	0.00000	0.03620	-0.90380	-0.69516	-0.46896	-0.27640	-0.13676	-0.05018	-0.00704	0.00620	0.00386
0.3	0.00000	0.07770	0.26397	-0.73603	-0.51462	-0.31601	-0.16613	-0.06912	-0.01740	0.00182	0.00283
0.4	0.00000	0.05469	0.19786	0.39378	-0.60622	-0.40435	-0.23626	-0.11692	-0.04494	-0.01045	-0.00022
0.5	0.00000	0.03369	0.13026	0.28022	0.46471	-0.53529	-0.35154	-0.20141	-0.09661	-0.03477	-0.00658
0.6	0.00000	0.01749	0.07444	0.17608	0.32214	0.50000	-0.50000	-0.32213	-0.17608	-0.07444	-0.01749
0.7	0.00000	0.00658	0.03477	0.09661	0.20142	0.35154	0.53529	-0.46471	-0.28022	-0.13026	-0.03369
0.8	0.00000	0.00022	0.01045	0.04494	0.11693	0.23626	0.40435	0.60622	-0.39378	-0.19786	-0.05469
0.9	0.00000	-0.00283	-0.00182	0.01740	0.06913	0.16613	0.31601	0.51462	0.73603	-0.26397	-0.07770
1.0	0.00000	-0.00386	-0.00620	0.00704	0.05019	0.13676	0.27640	0.46896	0.69516	0.90380	-0.09620
1.0	0.00000	-0.00399	-0.00681	0.00554	0.04733	0.13214	0.26986	0.46095	0.68711	0.89868	1.00000

ϵ_{yp}

$a/l \backslash X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.03648	0.02316	0.01234	0.00483	0.00734	-0.00185	-0.00254	-0.00236	-0.00178	-0.00105	-0.00029
0.1	0.02316	0.01780	0.01210	0.00705	0.00330	0.00089	-0.00044	-0.00102	-0.00118	-0.00114	-0.00105
0.2	0.01234	0.01210	0.01127	0.00999	0.00518	0.00366	0.00173	0.00040	-0.00051	-0.00118	-0.00178
0.3	0.00483	0.00705	0.00999	0.00982	0.00864	0.00641	0.00408	0.00206	0.00040	-0.00102	-0.00236
0.4	0.00034	0.00330	0.00618	0.00864	0.00980	0.00878	0.00657	0.00408	0.00173	-0.00044	-0.00254
0.5	-0.00185	0.00089	0.00366	0.00641	0.00878	0.00989	0.00978	0.00641	0.00366	0.00089	-0.00185
0.6	-0.00254	-0.00044	0.00173	0.00408	0.00657	0.00878	0.00980	0.00864	0.00618	0.00330	0.00034
0.7	-0.00236	-0.00102	0.00040	0.00206	0.00408	0.00641	0.00864	0.00982	0.00899	0.00705	0.00483
0.8	-0.00178	-0.00118	0.00051	0.00102	0.00173	0.00366	0.00618	0.00899	0.01127	0.01210	0.01234
0.9	-0.00105	-0.00114	-0.00118	-0.00102	-0.00044	0.00089	0.00330	0.00705	0.01210	0.01780	0.02316
1.0	-0.00029	-0.00105	-0.00178	-0.00236	-0.00254	-0.00185	0.00034	0.00483	0.01234	0.02316	0.03648

ϵ_{MP}

$a/l \backslash X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	-0.06673	-0.08472	-0.07549	-0.05748	-0.03746	-0.02103	-0.00975	-0.00332	-0.00057	0.00000
0.1	0.00000	0.02230	-0.01837	-0.03363	-0.03405	-0.02731	-0.01853	-0.01055	-0.00462	-0.00113	0.00000
0.2	0.00000	0.01280	0.05073	0.01180	-0.00831	-0.01555	-0.01506	-0.01085	-0.00574	-0.00165	0.00000
0.3	0.00000	0.00581	0.02629	0.06533	0.02446	0.00142	-0.00826	-0.00937	-0.00612	-0.00200	0.00000
0.4	0.00000	0.00138	0.00964	0.03071	0.06957	0.02845	0.00544	-0.00392	-0.00474	-0.00192	0.00000
0.5	0.00000	-0.00099	-0.00011	0.00039	0.00220	0.00100	0.00020	0.00039	-0.00011	-0.00098	0.00000
0.6	0.00000	-0.00192	-0.00474	-0.00392	0.00544	0.00845	0.00957	0.00701	0.00964	0.00138	0.00000
0.7	0.00000	-0.00200	-0.00512	-0.00937	-0.00866	0.00142	0.00446	0.00533	0.00269	0.00581	0.00000
0.8	0.00000	-0.00165	-0.00574	-0.01085	-0.01506	-0.01555	-0.00931	0.01188	0.00737	0.01280	0.00000
0.9	0.00000	-0.00113	-0.00462	-0.01853	-0.01853	-0.02731	-0.03405	-0.03358	-0.01837	0.02230	0.00000
1.0	0.00000	-0.00057	-0.00332	-0.00975	-0.02103	-0.03746	-0.05748	-0.07548	-0.08472	-0.06673	0.00000

ϵ_{QP}

$a/l \backslash X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	-1.00000	-0.38104	0.15681	0.20602	0.18695	0.13919	0.08712	0.04357	0.01399	0.00000
0.1	0.00000	0.42750	-0.57250	-0.26075	-0.06302	0.04248	0.08396	0.08701	0.07072	0.04723	0.02285
0.2	0.00000	0.25511	0.50081	-0.49918	-0.28592	-0.12769	-0.02599	0.02913	0.05042	0.04869	0.03086
0.3	0.00000	0.12399	0.29229	0.49150	-0.50850	-0.31309	-0.15543	-0.04631	0.01709	0.04215	0.03533
0.4	0.00000	0.03797	0.13714	0.29291	0.48846	-0.51153	-0.31452	-0.15344	-0.04244	0.01786	0.03109
0.5	0.00000	-0.01011	0.03720	0.14240	0.30203	0.50000	-0.50000	-0.30202	-0.14240	-0.03720	0.01011
0.6	0.00000	-0.03109	-0.01786	0.04244	0.15345	0.31453	0.51154	-0.48847	-0.29293	-0.13716	-0.03798
0.7	0.00000	-0.03533	-0.04215	-0.01709	0.04632	0.15543	0.31309	0.50050	-0.49150	-0.29229	-0.12399
0.8	0.00000	-0.03086	-0.04869	-0.05042	-0.02913	0.02598	0.12760	0.28591	0.49919	-0.50081	-0.25511
0.9	0.00000	-0.02285	-0.04723	-0.07072	-0.08700	-0.08396	-0.04248	0.06302	0.26078	0.57250	-0.42750
1.0	0.00000	-0.01399	-0.04357	-0.08712	-0.13919	-0.18695	-0.20602	-0.15681	0.01648	0.38104	1.00000

L.l = 3,8

ξ_{ym}

X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.06935	0.02537	0.02097	-0.01121	-0.01482	-0.01368	-0.01044	-0.00654	-0.00256	0.00248	0.00380
0.1	0.06165	0.02789	0.02183	-0.01083	-0.01474	-0.01376	-0.01058	-0.00678	-0.00307	0.00040	0.00376
0.2	0.04590	0.02777	0.02777	-0.00790	-0.01380	-0.01394	-0.01126	-0.00758	-0.00378	-0.00013	0.00342
0.3	0.02950	0.02223	0.01368	0.00893	-0.01003	-0.01329	-0.01223	-0.00917	-0.00544	-0.00161	0.00219
0.4	0.01603	0.01528	0.01377	0.00958	-0.00833	-0.00970	-0.01227	-0.01104	-0.00806	-0.00449	-0.00090
0.5	0.00657	0.00908	0.01122	0.01190	0.00914	0.00800	-0.00915	-0.01190	-0.01122	-0.00908	-0.00657
0.6	0.00080	0.00449	0.00806	0.01104	0.01226	0.00970	0.00803	-0.00958	-0.01377	-0.01528	-0.01603
0.7	-0.00219	0.00161	0.00544	0.00917	0.01223	0.01329	0.01003	-0.00093	-0.01368	-0.02223	-0.02950
0.8	-0.00342	0.00013	0.00378	0.00758	0.01126	0.01395	0.01381	0.00790	-0.00777	-0.02777	-0.04590
0.9	-0.00376	-0.00040	0.00307	0.00678	0.01058	0.01376	0.01474	0.01083	-0.00183	-0.02789	-0.05165
1.0	-0.00380	-0.00380	0.00296	0.00664	0.01044	0.01368	0.01482	0.01121	-0.00098	-0.02637	-0.06935

ξ_{QM}

X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	1.92915	2.44527	2.19443	1.62935	1.02409	0.51736	0.16106	-0.03815	-0.08923	0.00000
0.1	0.00000	1.86948	2.43449	2.20882	1.65232	1.24652	0.53491	0.17261	-0.03157	-0.08697	0.00000
0.2	0.00000	1.53789	2.29111	2.24662	1.75757	1.17477	0.64316	0.24893	0.01234	-0.06974	0.00000
0.3	0.00000	1.07994	1.83734	2.16322	1.93957	1.42381	0.89852	0.44054	0.13474	-0.01214	0.00000
0.4	0.00000	0.65359	1.26479	1.76563	1.90450	1.74562	1.25564	0.77497	0.37312	0.11043	0.00000
0.5	0.00000	0.32665	0.75249	1.24246	1.59782	1.91650	1.69701	1.24246	0.75249	0.32665	0.00000
0.6	0.00000	0.11043	0.37312	0.77497	1.25984	1.74562	1.98458	1.76563	1.26479	0.65359	0.00000
0.7	0.00000	-0.01214	0.13474	0.44024	0.89052	1.42301	1.93957	2.16302	1.83734	1.07994	0.00000
0.8	0.00000	-0.06874	0.01234	0.24893	0.64316	1.17477	1.76757	2.24662	2.29111	1.53789	0.00000
0.9	0.00000	-0.08697	-0.03157	0.17261	0.53491	1.04652	1.65232	2.20880	2.43449	1.86948	0.00000
1.0	0.00000	-0.08923	-0.03815	0.16106	0.51736	1.02409	1.62935	2.19443	2.44527	1.92915	0.00000

ξ_{MM}

X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000										
0.1	-1.00000	-0.88862	-0.66110	-0.42491	-0.23248	-0.10022	-0.02427	0.00831	0.01318	0.00561	0.00000
0.2	0.00000	0.10519	-0.89481	-0.67058	-0.43405	-0.23967	-0.10508	-0.02711	0.00693	0.01267	0.00552
0.3	0.00000	0.08319	0.28156	-0.71844	-0.48614	-0.28341	-0.13626	-0.04629	-0.00298	0.00876	0.00467
0.4	0.00000	0.05652	0.20534	0.40976	-0.59024	-0.38133	-0.21158	-0.09577	-0.03032	-0.00287	0.00193
0.5	0.00000	0.03294	0.12938	0.28234	0.47327	-0.52673	-0.33699	-0.18532	-0.08354	-0.02717	-0.00424
0.6	0.00000	0.01546	0.06867	0.16816	0.31612	0.50000	-0.50000	-0.31611	-0.16816	-0.06867	-0.01546
0.7	0.00000	0.00424	0.02717	0.08354	0.18534	0.33699	0.52673	-0.47327	-0.28234	-0.12938	-0.03294
0.8	0.00000	-0.00193	0.00287	0.03032	0.09579	0.21158	0.38133	0.59024	-0.40976	-0.20534	-0.05652
0.9	0.00000	-0.00467	-0.00876	0.00298	0.04629	0.13625	0.28339	0.48613	-0.40976	-0.20534	-0.05652
1.0	0.00000	-0.00561	-0.01318	-0.00831	0.02427	0.10022	0.23248	0.42491	0.66110	0.88862	1.00000

L.1 = 4

E_{YP}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.03127	0.01930	0.00977	0.00337	-0.00025	-0.00184	-0.00218	-0.00186	-0.00126	-0.00057	0.00012
0.1	0.01930	0.01477	0.00987	0.00555	0.00242	0.00048	-0.00050	-0.00086	-0.00088	-0.00075	-0.00057
0.2	0.00977	0.00987	0.00938	0.00747	0.00503	0.00286	0.00127	0.00022	-0.00043	-0.00088	-0.00126
0.3	0.00337	0.00555	0.00747	0.00833	0.00728	0.00529	0.00324	0.00154	-0.00022	-0.00086	-0.00186
0.4	-0.00025	0.00242	0.00503	0.00728	0.00837	0.00742	0.00541	0.00324	0.00127	-0.00050	-0.00218
0.5	-0.00184	0.00048	0.00286	0.00528	0.00742	0.00844	0.00742	0.00528	0.00286	0.00048	-0.00184
0.6	-0.00218	-0.00050	0.00127	0.00324	0.00541	0.00742	0.00837	0.00728	0.00503	0.00242	-0.00025
0.7	-0.00186	-0.00086	0.00022	0.00154	0.00324	0.00528	0.00728	0.00833	0.00746	0.00555	0.00337
0.8	-0.00126	-0.00088	-0.00043	0.00022	0.00127	0.00286	0.00503	0.00746	0.00938	0.00987	0.00977
0.9	-0.00057	-0.00075	-0.00088	-0.00086	-0.00050	0.00048	0.00242	0.00555	0.00987	0.01477	0.01930
1.0	0.00012	-0.00057	-0.00126	-0.00186	-0.00218	-0.00184	-0.00025	0.00337	0.00977	0.01930	0.03127

E_{MP}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	-0.06524	-0.08052	-0.07813	-0.05050	-0.03107	-0.01610	-0.00658	-0.00176	-0.00014	0.00000
0.1	0.00000	0.02280	-0.01672	-0.03085	-0.03052	-0.02374	-0.01552	-0.00845	-0.00352	-0.00081	0.00000
0.2	0.00000	0.01256	0.05026	0.01161	-0.00883	-0.01474	-0.01400	-0.00989	-0.00514	-0.00145	0.00000
0.3	0.00000	0.00525	0.02465	0.05295	0.02312	-0.00026	-0.00914	-0.00964	-0.00611	-0.00196	0.00000
0.4	0.00000	0.00082	0.00782	0.02761	0.06580	0.02492	0.00261	-0.00548	-0.00543	-0.00000	0.00000
0.5	0.00000	-0.00137	-0.00149	0.00574	0.02642	0.06587	0.02642	0.00574	-0.00149	-0.00137	0.00000
0.6	0.00000	-0.00208	-0.00543	-0.00549	0.00914	0.02492	0.06580	0.02761	0.00782	0.00082	0.00000
0.7	0.00000	-0.00196	-0.00611	-0.00964	-0.00914	-0.00026	0.00261	0.06295	0.02465	0.00525	0.00000
0.8	0.00000	-0.00145	-0.00514	-0.00999	-0.01474	-0.01474	-0.00903	0.01161	0.05026	0.01256	0.00000
0.9	0.00000	-0.00081	-0.00352	-0.00845	-0.01552	-0.02374	-0.03052	-0.03085	-0.01672	0.02280	0.00000
1.0	0.00000	-0.00014	-0.00176	-0.00658	-0.01610	-0.03107	-0.05050	-0.07813	-0.08052	-0.06524	0.00000

E_{QB}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	
0.0	0.00000	-1.00000	-0.35600	0.00952	0.17116	0.20600	0.17579	0.12227	0.06960	0.02936	0.00584	0.00000
0.1	0.00000	0.43665	-0.56335	-0.24806	-0.05297	0.04626	0.00105	0.07916	0.06068	0.03790	0.01693	0.00000
0.2	0.00000	0.25162	0.50039	-0.49961	-0.28158	-0.12169	-0.02177	0.02984	0.04784	0.04446	0.02739	0.00000
0.3	0.00000	0.11431	0.28200	0.48778	-0.51222	-0.30894	-0.14742	-0.03885	0.02158	0.04348	0.03491	0.00000
0.4	0.00000	0.02779	0.12332	0.28219	0.48626	-0.51374	-0.30882	-0.14279	-0.03226	0.02495	0.03443	0.00000
0.5	0.00000	-0.01744	0.02526	0.12957	0.29330	0.50000	-0.50000	-0.29330	-0.12956	-0.02526	0.01744	0.00000
0.6	0.00000	-0.03443	-0.02495	0.03226	0.14279	0.30802	0.51374	-0.48626	-0.28219	-0.12332	-0.02779	0.00000
0.7	0.00000	-0.03491	-0.04348	-0.02158	0.03885	0.14742	0.30894	0.51223	-0.48778	-0.28200	-0.11431	0.00000
0.8	0.00000	-0.02739	-0.04446	-0.04784	-0.02984	0.02177	0.12169	0.28159	0.49961	-0.50039	-0.25162	0.00000
0.9	0.00000	-0.01693	-0.03790	-0.06068	-0.07916	-0.00105	-0.04626	0.05297	0.24806	0.56335	-0.43665	0.00000
1.0	0.00000	-0.00584	-0.02936	-0.06960	-0.12227	-0.17579	-0.20600	-0.17115	-0.00952	0.35600	1.00000	0.00000

L.1 = 4

E_{ym}

X/l a/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.06260	0.02226	-0.00070	-0.01096	0.01317	-0.01161	-0.00037	-0.02495	-0.00187	0.00787	0.00347
0.1	0.05500	0.02382	0.00014	-0.01062	-0.01328	-0.01172	-0.00052	-0.02507	-0.00197	0.00082	0.00346
0.2	0.03982	0.02390	0.00600	-0.00791	-0.01250	-0.01200	-0.00929	-0.02580	-0.00260	0.00074	0.00331
0.3	0.02449	0.01882	0.01183	0.00051	-0.00930	-0.01183	-0.01047	-0.02749	-0.00410	-0.00074	0.00255
0.4	0.01237	0.01251	0.01192	0.00667	-0.00030	-0.00888	-0.01092	-0.02947	-0.00652	-0.00311	0.00037
0.5	0.00425	0.00703	0.00948	0.01059	0.00943	0.00200	-0.00843	-0.01059	-0.00948	-0.00703	-0.00425
0.6	-0.00037	0.00311	0.00652	0.00947	0.01092	0.00888	0.00030	-0.00867	-0.01192	-0.01251	-0.01237
0.7	-0.00255	0.00074	0.00410	0.00749	0.01047	0.01183	0.00929	-0.00051	-0.01183	-0.01882	-0.02449
0.8	-0.00331	-0.00082	0.00250	0.00588	0.00929	0.01200	0.01258	0.00791	-0.00600	-0.02390	-0.03982
0.9	-0.00346	-0.00082	0.00197	0.00509	0.00852	0.01172	0.01328	0.01062	-0.00014	-0.02382	-0.05500
1.0	-0.00347	-0.00087	0.00187	0.00495	0.00837	0.01161	0.01332	0.01096	0.00070	-0.02226	-0.06260

E_{OM}

X/l a/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	2.09051	2.57761	2.23585	1.58991	0.94069	0.42630	0.08623	-0.08668	-0.11126	0.00000
0.1	0.00000	2.02084	2.56824	2.25532	1.61828	0.96667	0.44534	0.09773	-0.08130	-0.10979	0.00000
0.2	0.00000	1.63347	2.41480	2.31659	1.76219	1.11607	0.56384	0.17518	-0.04076	-0.09571	0.00000
0.3	0.00000	1.11001	1.90528	2.24785	1.98302	1.41923	0.83757	0.37411	0.07710	-0.04635	0.00000
0.4	0.00000	0.63773	1.26946	1.81369	2.06040	1.78955	1.26192	0.73024	0.31727	0.07018	0.00000
0.5	0.00000	0.28936	0.71478	1.23751	1.74392	1.99295	1.74392	1.23750	0.71478	0.28936	0.00000
0.6	0.00000	0.07018	0.31727	0.73024	1.26192	1.78955	2.06040	1.81369	1.26946	0.63773	0.00000
0.7	0.00000	-0.04635	0.07710	0.37411	0.83757	1.41923	1.98302	2.24785	1.90528	1.11001	0.00000
0.8	0.00000	-0.09571	-0.04076	0.17518	0.56384	1.11607	1.76219	2.31659	2.41480	1.63347	0.00000
0.9	0.00000	-0.10979	-0.08130	0.09773	0.44534	0.96667	1.61828	2.25532	2.56824	2.02084	0.00000
1.0	0.00000	-0.11126	-0.08668	0.08668	0.42630	0.94069	1.58991	2.23585	2.57761	2.09051	0.00000

E_{MM}

X/l a/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000										
0.1	-1.00000	-0.87828	-0.63512	-0.39010	-0.19783	-0.07205	-0.00509	0.01907	0.01774	0.00667	0.00000
0.2	0.00000	0.11433	-0.88567	-0.64615	-0.40040	-0.20561	-0.07704	-0.00702	0.01787	0.01736	0.00662
0.3	0.00000	0.08845	0.29847	-0.70153	-0.45906	-0.25316	-0.10948	-0.02668	0.00081	0.01413	0.00602
0.4	0.00000	0.05791	0.21164	0.42409	-0.57591	-0.36021	-0.18905	-0.07680	-0.01749	0.00361	0.00372
0.5	0.00000	0.03182	0.12742	0.28294	0.48044	-0.51956	-0.32343	-0.17000	-0.07104	-0.01994	-0.00203
0.6	0.00000	0.01328	0.06244	0.15956	0.30954	0.50000	-0.50000	-0.30954	-0.15956	-0.06244	-0.01328
0.7	0.00000	0.00203	0.01994	0.07104	0.17000	0.32342	0.51956	-0.48044	-0.28294	-0.12742	-0.03182
0.8	0.00000	0.00000	0.00372	-0.00361	0.01749	0.07680	0.18904	0.36021	0.57591	-0.42409	-0.21164
0.9	0.00000	-0.00662	-0.01736	-0.01787	0.00782	0.07704	0.20561	0.40040	0.64615	0.88567	-0.11433
1.0	0.00000	-0.00667	-0.01774	-0.01907	0.00509	0.07205	0.19783	0.39010	0.63512	0.87828	1.00000

L.1=4.2

E_{YP}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.02702	0.01620	0.00777	0.00231	-0.00060	-0.00174	-0.00184	-0.00145	-0.00088	-0.00028	0.00031
0.1	0.01620	0.01235	0.00812	0.00441	0.00178	0.00023	-0.00051	-0.00072	-0.00066	-0.00048	-0.00028
0.2	0.00777	0.00812	0.00789	0.00627	0.00413	0.00226	0.00092	0.00010	-0.00037	-0.00066	-0.00088
0.3	0.00231	0.00441	0.00527	0.00714	0.00619	0.00437	0.00258	0.00115	0.00010	-0.00072	-0.00145
0.4	-0.00060	0.00178	0.00413	0.00619	0.00719	0.00630	0.00447	0.00258	0.00092	-0.00051	-0.00184
0.5	-0.00174	0.00023	0.00226	0.00437	0.00630	0.00725	0.00630	0.00437	0.00226	0.00023	-0.00174
0.6	-0.00184	-0.00051	0.00092	0.00258	0.00447	0.00630	0.00719	0.00619	0.00413	0.00178	-0.00060
0.7	-0.00145	-0.00072	0.00010	0.00115	0.00258	0.00437	0.00619	0.00714	0.00527	0.00441	0.00231
0.8	-0.00088	-0.00066	-0.00037	0.00010	0.00092	0.00226	0.00413	0.00527	0.00789	0.00812	0.00777
0.9	-0.00028	-0.00048	-0.00066	-0.00072	-0.00051	0.00023	0.00178	0.00441	0.00812	0.01235	0.01620
1.0	0.00031	-0.00028	-0.00088	-0.00145	-0.00184	-0.00174	-0.00060	0.00231	0.00777	0.01620	0.02702

E_{MP}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	-0.02377	-0.07648	-0.08424	-0.04415	-0.02546	-0.01192	-0.00400	-0.00054	0.00017	0.00000
0.1	0.00000	0.02324	-0.01522	-0.02827	-0.02733	-0.02057	-0.01289	-0.00666	-0.00260	-0.00055	0.00000
0.2	0.00000	0.01228	0.04969	0.01124	-0.00783	-0.01398	-0.01297	-0.00895	-0.00455	-0.00126	0.00000
0.3	0.00000	0.00469	0.02303	0.06263	0.01933	-0.00173	-0.00970	-0.00972	-0.00598	-0.00188	0.00000
0.4	0.00000	0.00030	0.00613	0.02473	0.06233	0.02176	0.00056	-0.00672	-0.00591	-0.00218	0.00000
0.5	0.00000	-0.00169	-0.00266	0.00341	0.02305	0.06205	0.02305	0.00341	-0.00266	-0.00169	0.00000
0.6	0.00000	-0.00218	-0.00591	-0.00672	0.00056	0.02176	0.06233	0.02473	0.00613	0.00030	0.00000
0.7	0.00000	-0.00188	-0.00598	-0.00972	-0.00978	-0.00173	0.01993	0.06063	0.02303	0.00469	0.00000
0.8	0.00000	-0.00126	-0.00455	-0.00895	-0.01297	-0.01398	-0.00783	0.01124	0.04969	0.01228	0.00000
0.9	0.00000	-0.00055	-0.00260	-0.00666	-0.01289	-0.02057	-0.02733	-0.02827	-0.01522	0.02324	0.00000
1.0	0.00000	0.00017	-0.00054	-0.00400	-0.01192	-0.02546	-0.04415	-0.06424	-0.07648	-0.06377	0.00000

E_{QP}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	
0.0	0.00000	-1.00000	-0.33164	0.03360	0.18295	0.20391	0.16394	0.10631	0.05429	0.01779	-0.00039	0.00000
0.1	0.00000	0.44501	-0.55499	-0.23639	-0.04398	0.04925	0.07792	0.07182	0.05175	0.02989	0.01199	0.00000
0.2	0.00000	0.24752	0.49959	-0.50041	-0.27714	-0.11541	-0.01733	0.03067	0.04534	0.04032	0.02400	0.00000
0.3	0.00000	0.10464	0.27196	0.48474	-0.51526	-0.30398	-0.13886	-0.03149	0.02540	0.04391	0.03382	0.00000
0.4	0.00000	0.01833	0.11045	0.27236	0.48486	-0.51514	-0.30101	-0.13237	-0.02310	0.03062	0.03664	0.00000
0.5	0.00000	-0.02362	0.01473	0.11777	0.28501	0.50000	-0.50000	-0.13237	-0.11776	-0.01473	0.02362	0.00000
0.6	0.00000	-0.03664	-0.03062	0.02310	0.13237	0.30101	0.51514	-0.48486	-0.27236	-0.11045	-0.01833	0.00000
0.7	0.00000	-0.03382	-0.04391	-0.02540	0.03148	0.13886	0.30389	0.51526	-0.48474	-0.27197	-0.10464	0.00000
0.8	0.00000	-0.02400	-0.04032	-0.04534	-0.03067	0.01733	0.11541	0.27714	0.50041	-0.49959	-0.24752	0.00000
0.9	0.00000	-0.01199	-0.02989	-0.05175	-0.07182	-0.07792	-0.04925	0.04399	0.23639	0.55499	-0.44501	0.00000
1.0	0.00000	0.00039	-0.01779	-0.05429	-0.10631	-0.16394	-0.20391	-0.18294	-0.03360	0.33164	1.00000	0.00000

L1 = 4,2

E_{ym}

X/l a/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.05677	0.01883	-0.00196	-0.01055	-0.01189	-0.00979	-0.00664	-0.00362	-0.00111	0.00101	0.00297
0.1	0.04928	0.02241	-0.00114	-0.01025	-0.01189	-0.00992	-0.00680	-0.00376	-0.00120	0.00097	0.00298
0.2	0.03465	0.02068	0.00463	-0.00776	-0.01140	-0.01242	-0.00762	-0.00453	-0.00175	0.00069	0.00298
0.3	0.02033	0.01601	0.01035	0.00025	-0.00859	-0.01052	-0.00977	-0.00613	-0.00309	-0.00070	0.00258
0.4	0.00946	0.01030	0.01042	0.00795	-0.00024	-0.00815	-0.00975	-0.00817	-0.00531	-0.00212	0.00188
0.5	0.00256	0.00546	0.00808	0.00950	0.00701	0.00000	-0.00781	-0.00950	-0.00808	-0.00546	-0.00256
0.6	-0.00108	0.00212	0.00531	0.00817	0.00975	0.00815	0.00024	-0.00795	-0.01042	-0.01030	-0.00946
0.7	-0.00258	0.00020	0.00309	0.00613	0.00897	0.01052	0.00859	-0.00025	-0.01035	-0.01041	-0.00333
0.8	-0.00298	-0.00069	0.00175	0.00453	0.00762	0.01042	0.01140	0.00776	-0.00463	-0.00268	-0.00465
0.9	-0.00298	-0.00097	0.00120	0.00376	0.00580	0.00992	0.01189	0.01025	0.00114	-0.00041	-0.004928
1.0	-0.00297	-0.00101	0.00111	0.00362	0.00664	0.00979	0.01189	0.01055	0.00196	-0.01083	-0.05677

E_{OM}

X/l a/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	2.25308	2.70089	2.26212	1.53760	0.85252	0.33979	0.02264	-0.12207	-0.12385	0.00000
0.1	0.00000	2.17261	2.69385	2.28833	1.57133	0.88210	0.36008	0.03378	-0.11774	-0.12328	0.00000
0.2	0.00000	1.72469	2.53267	2.37751	1.74777	1.05328	0.48764	0.11065	-0.08250	-0.11422	0.00000
0.3	0.00000	1.13267	1.96645	2.32991	2.02399	1.40375	0.78623	0.31365	0.02734	-0.07428	0.00000
0.4	0.00000	0.61561	1.26771	1.86004	2.13970	1.83637	1.25535	0.68577	0.26416	0.03252	0.00000
0.5	0.00000	0.24998	0.67432	1.23144	1.79306	2.07751	1.79306	1.23144	0.67432	0.24998	0.00000
0.6	0.00000	0.03252	0.26416	0.68577	1.25535	1.83637	2.13970	1.86004	1.26771	0.61561	0.00000
0.7	0.00000	-0.07428	0.02734	0.31365	0.78623	1.40375	2.02399	2.32991	1.96645	1.13267	0.00000
0.8	0.00000	-0.11422	-0.08250	0.11065	0.48764	1.05328	1.74777	2.37751	2.53267	1.72469	0.00000
0.9	0.00000	-0.12328	-0.11774	0.03378	0.36008	0.88210	1.57193	2.28833	2.69385	2.17261	0.00000
1.0	0.00000	-0.12385	-0.12207	0.02264	0.33979	0.85252	1.53760	2.26212	2.70089	2.25308	0.00000

E_{MM}

X/l a/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000										
0.1	-1.00000	-0.86769	-0.60926	-0.35669	-0.16605	-0.07765	0.01032	0.02687	0.02060	0.00711	0.00000
0.2	0.00000	0.12358	-0.87642	-0.62196	-0.36817	-0.17435	-0.05869	0.00779	0.02591	0.02038	0.00711
0.3	0.00000	0.09346	0.31461	-0.68539	-0.43349	-0.22538	-0.08586	-0.01028	0.01803	0.01799	0.00690
0.4	0.00000	0.05886	0.21673	0.43674	-0.56326	-0.34102	-0.16867	-0.05999	-0.00647	0.00900	0.00516
0.5	0.00000	0.03034	0.12442	0.28206	0.48627	-0.31086	-0.15546	-0.05920	-0.01315	0.00004	0.00000
0.6	0.00000	0.01100	0.05584	0.15038	0.30245	0.50000	-0.50000	-0.30245	-0.15038	-0.05584	-0.01100
0.7	0.00000	-0.00004	0.01315	0.05920	0.15546	0.31086	0.51373	-0.48627	-0.28206	-0.12442	-0.03034
0.8	0.00000	-0.00004	0.01315	0.05920	0.15546	0.31086	0.51373	-0.48627	-0.28206	-0.12442	-0.03034
0.9	0.00000	-0.00004	0.01315	0.05920	0.15546	0.31086	0.51373	-0.48627	-0.28206	-0.12442	-0.03034
1.0	0.00000	-0.00004	0.01315	0.05920	0.15546	0.31086	0.51373	-0.48627	-0.28206	-0.12442	-0.03034
0.1	0.00000	0.12358	-0.87642	-0.62196	-0.36817	-0.17435	-0.05869	0.00779	0.02591	0.02038	0.00711
0.2	0.00000	0.09346	0.31461	-0.68539	-0.43349	-0.22538	-0.08586	-0.01028	0.01803	0.01799	0.00690
0.3	0.00000	0.05886	0.21673	0.43674	-0.56326	-0.34102	-0.16867	-0.05999	-0.00647	0.00900	0.00516
0.4	0.00000	0.03034	0.12442	0.28206	0.48627	-0.31086	-0.15546	-0.05920	-0.01315	0.00004	0.00000
0.5	0.00000	0.01100	0.05584	0.15038	0.30245	0.50000	-0.50000	-0.30245	-0.15038	-0.05584	-0.01100
0.6	0.00000	-0.00004	0.01315	0.05920	0.15546	0.31086	0.51373	-0.48627	-0.28206	-0.12442	-0.03034
0.7	0.00000	-0.00004	0.01315	0.05920	0.15546	0.31086	0.51373	-0.48627	-0.28206	-0.12442	-0.03034
0.8	0.00000	-0.00004	0.01315	0.05920	0.15546	0.31086	0.51373	-0.48627	-0.28206	-0.12442	-0.03034
0.9	0.00000	-0.00004	0.01315	0.05920	0.15546	0.31086	0.51373	-0.48627	-0.28206	-0.12442	-0.03034
1.0	0.00000	-0.00004	0.01315	0.05920	0.15546	0.31086	0.51373	-0.48627	-0.28206	-0.12442	-0.03034

L.1 = 4,4

E_{ym}

$a/l \backslash X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.05171	0.01594	-0.00290	-0.01024	-0.01056	-0.00820	-0.00521	-0.00259	-0.00058	0.00100	0.00242
0.1	0.04433	0.01755	-0.00211	-0.00979	-0.01059	-0.00835	-0.00537	-0.00272	-0.00066	0.00090	0.00245
0.2	0.03023	0.01799	0.00356	-0.00751	-0.01030	-0.00897	-0.00622	-0.00345	-0.00113	0.00078	0.00255
0.3	0.01687	0.01370	0.00916	0.00210	-0.00791	-0.00936	-0.00768	-0.00501	-0.00233	0.00012	0.00244
0.4	0.00715	0.00851	0.00920	0.00736	-0.00016	-0.00750	-0.00876	-0.00789	-0.00434	-0.00142	0.00148
0.5	0.00133	0.00425	0.00694	0.00857	0.00728	0.00200	-0.00729	-0.00857	-0.00694	-0.00425	-0.00133
0.6	-0.00148	0.00142	0.00434	0.00708	0.00876	0.00750	0.00015	-0.00736	-0.00920	-0.00851	-0.00715
0.7	-0.00244	-0.00012	0.00233	0.00501	0.00768	0.00936	0.00791	-0.00210	-0.00916	-0.01370	-0.01687
0.8	-0.00255	-0.00078	0.00113	0.00345	0.00622	0.00897	0.01030	0.00751	-0.00356	-0.01799	-0.03023
0.9	-0.00245	-0.00090	0.00066	0.00211	0.00979	0.01059	0.01056	0.00835	0.00537	0.00272	-0.04433
1.0	-0.00242	-0.00100	0.00058	0.00242	0.00245	0.00244	0.01056	0.01004	0.00290	-0.01594	-0.05171

E_{QM}

$a/l \backslash X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	2.41650	2.81462	2.27348	1.47358	0.76099	0.25862	-0.03001	-2.14546	-0.12816	0.00000
0.1	0.00000	2.32446	2.81097	2.30731	1.51433	0.79411	0.27983	-0.01954	-2.14239	-0.12857	0.00000
0.2	0.00000	1.81123	2.64479	2.42975	1.72501	0.98717	0.41497	0.05500	-0.11369	-0.12507	0.00000
0.3	0.00000	1.14797	2.02110	2.40963	2.06267	1.38655	0.73636	0.25864	-0.01404	-0.09616	0.00000
0.4	0.00000	0.58781	1.25996	1.90481	2.22248	1.88544	1.24948	0.64494	0.21399	-0.00222	0.00000
0.5	0.00000	0.20917	0.63159	1.22410	1.84458	2.16653	1.84458	1.22410	0.53159	0.20917	0.00000
0.6	0.00000	-0.00222	0.21399	0.64494	1.24948	1.88544	2.22248	1.90481	1.25996	0.58781	0.00000
0.7	0.00000	-0.09616	-0.01484	0.25864	0.73636	1.38655	2.06267	2.40963	2.02110	1.14797	0.00000
0.8	0.00000	-0.12507	-0.11369	0.05500	0.41497	0.98717	1.72501	2.42975	2.64479	1.81123	0.00000
0.9	0.00000	-0.12857	-0.12839	-0.01954	0.27983	0.79411	1.51433	2.30731	2.81097	2.32446	0.00000
1.0	0.00000	-0.12816	-0.14546	-0.03001	0.25862	0.76099	1.47358	2.27348	2.81462	2.41650	0.00000

E_{MM}

$a/l \backslash X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000										
0.1	-1.00000	-0.85686	-0.58360	-0.32477	-0.13715	-0.02691	0.02219	0.03198	0.02196	0.00729	0.00000
0.2	0.00000	0.13292	-0.86708	-0.59808	-0.33741	-0.14588	-0.03189	0.01994	0.03129	0.02191	0.00735
0.3	0.00000	0.09819	0.32995	-0.67005	-0.40945	-0.20002	-0.06527	0.00310	0.02487	0.02049	0.00735
0.4	0.00000	0.05937	0.22062	0.44777	-0.55223	-0.32367	-0.15034	-0.04526	0.00281	0.01333	0.00625
0.5	0.00000	0.02853	0.12047	0.27982	0.49084	-0.49084	-0.29922	-0.14172	-0.04807	-0.00684	0.00192
0.6	0.00000	0.00863	0.04898	0.14073	0.29494	0.50916	-0.29494	-0.14072	-0.04898	-0.00863	0.00000
0.7	0.00000	-0.00192	0.00684	0.04007	0.14172	0.29922	-0.49084	-0.27982	-0.12047	-0.02853	0.00000
0.8	0.00000	-0.00625	-0.01333	-0.00282	0.04526	0.15033	0.32366	0.55223	-0.44777	-0.22062	-0.05937
0.9	0.00000	-0.00735	-0.02049	-0.02486	-0.00310	0.06527	0.20002	0.40945	0.67005	-0.32995	-0.09819
1.0	0.00000	-0.00729	-0.02196	-0.03198	-0.02219	0.02691	0.13714	0.32478	0.58359	0.85686	1.00000

L.1 = 4.6

ϵ_{yp}

$a/l \backslash X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.02056	0.01163	0.00496	0.00096	-0.00090	-0.00141	-0.00126	-0.00085	-0.00042	-0.00002	0.00036
0.1	0.01163	0.00084	0.00564	0.00285	0.00097	-0.00004	-0.00044	-0.00049	-0.00037	-0.00020	-0.00002
0.2	0.00496	0.00564	0.00577	0.00455	0.00285	0.00142	0.00047	-0.00005	-0.00028	-0.00037	-0.00042
0.3	0.00096	0.00285	0.00455	0.00539	0.00457	0.00304	0.00163	0.00061	-0.00005	-0.00049	-0.00085
0.4	-0.00090	0.00097	0.00295	0.00457	0.00543	0.00462	0.00309	0.00163	0.00047	-0.00044	-0.00126
0.5	-0.00141	-0.00004	0.00142	0.00304	0.00462	0.00544	0.00462	0.00304	0.00142	-0.00004	-0.00141
0.6	-0.00126	-0.00044	0.00047	0.00163	0.00309	0.00462	0.00543	0.00457	0.00285	0.00097	-0.00090
0.7	-0.00085	-0.00049	-0.00028	0.00061	0.00163	0.00304	0.00457	0.00539	0.00455	0.00285	0.00096
0.8	-0.00042	-0.00037	-0.00028	-0.00005	0.00047	0.00142	0.00285	0.00455	0.00577	0.00564	0.00496
0.9	-0.00002	-0.00020	-0.00037	-0.00049	-0.00044	-0.00004	0.00097	0.00285	0.00564	0.00884	0.01163
1.0	0.00036	-0.00002	-0.00042	-0.00085	-0.00126	-0.00141	-0.00090	0.00085	0.00496	0.01163	0.02056

ϵ_{MP}

$a/l \backslash X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	-0.06091	-0.26587	-0.05363	-0.11097	-0.11642	-0.08316	-0.00413	0.24039	0.10051	0.00000
0.1	0.00000	0.02400	-0.01262	-0.06383	0.00193	0.11034	-0.02970	-0.00397	-0.00122	-0.00017	0.00000
0.2	0.00000	0.01163	0.04931	0.01024	-0.00762	-0.01259	-0.01101	-0.00717	-0.00343	-0.00000	0.00000
0.3	0.00000	0.00357	0.01955	0.05620	0.01597	-0.00405	-0.01242	-0.00935	-0.00342	-0.00164	0.00000
0.4	0.00000	-0.00061	0.00314	0.01963	0.05026	0.01648	-0.00285	-0.00030	-0.00035	-0.00021	0.00000
0.5	0.00000	-0.00215	-0.00444	-0.00031	0.01743	0.05559	0.01743	-0.00031	-0.00444	-0.00215	0.00000
0.6	0.00000	-0.00221	-0.00635	-0.00020	-0.00042	0.01648	0.05620	0.01963	-0.00314	-0.00061	0.00000
0.7	0.00000	-0.00164	-0.00542	-0.00025	-0.00042	-0.00405	0.01597	0.05620	0.01955	0.00357	0.00000
0.8	0.00000	-0.00090	-0.00343	-0.00017	-0.01101	-0.01259	-0.00762	0.01024	0.04831	0.01163	0.00000
0.9	0.00000	-0.00017	-0.00122	-0.00037	-0.00044	-0.01534	-0.00193	-0.00383	-0.01262	0.00400	0.00000
1.0	0.00000	0.00053	0.00099	-0.00043	-0.00566	-0.01642	-0.00327	-0.00363	-0.00887	-0.00091	0.00000

ϵ_{QP}

$a/l \backslash X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	
0.0	0.00000	-1.00000	-0.28512	0.07592	0.19918	0.19425	0.13888	0.07755	0.03001	0.00171	-0.00784	0.00000
0.1	0.00000	0.45940	-0.54060	-0.21603	-0.02901	0.05308	0.07118	0.05865	0.03701	0.01752	0.00477	0.00000
0.2	0.00000	0.23767	0.49712	-0.50288	-0.26783	-0.10209	-0.00801	0.03249	0.04055	0.03243	0.01762	0.00000
0.3	0.00000	0.08556	0.25275	0.48061	-0.51939	-0.29144	-0.12054	-0.01733	0.03112	0.04249	0.03001	0.00000
0.4	0.00000	0.00169	0.08747	0.25508	0.48414	-0.51586	-0.28579	-0.11234	-0.00771	0.03805	0.03807	0.00000
0.5	0.00000	-0.03268	-0.00230	-0.09704	0.26958	0.50000	-0.26958	-0.09703	0.00230	0.03268	0.00000	0.00000
0.6	0.00000	-0.03807	-0.03805	0.00771	0.11234	0.28579	-0.48414	-0.25507	-0.08747	-0.00169	0.00000	0.00000
0.7	0.00000	-0.03001	-0.04249	-0.03112	0.01733	0.12054	0.29144	-0.48061	-0.25276	-0.08557	0.00000	0.00000
0.8	0.00000	-0.01762	-0.03243	-0.04055	-0.03249	0.00801	0.10209	0.26783	-0.49712	-0.23767	0.00000	0.00000
0.9	0.00000	-0.00476	-0.01752	-0.03701	-0.05065	-0.07118	-0.05308	0.02901	0.21603	0.54060	0.00000	0.00000
1.0	0.00000	0.00784	-0.00171	-0.03001	-0.07755	-0.13888	-0.19425	-0.19919	-0.07596	0.28506	1.00000	0.00000

L.1 = 4,6

E_{ym}

X/l a/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.04730	0.01350	-0.00359	-0.00948	-0.00933	-0.00683	-0.00403	-0.00180	-0.00022	0.00091	0.00189
0.1	0.04002	0.01513	-0.00283	-0.00926	-0.00940	-0.00693	-0.00419	-0.00191	-0.00028	0.00090	0.00193
0.2	0.02644	0.01573	0.00273	-0.00720	-0.00929	-0.00770	-0.00505	-0.00259	-0.00069	0.00078	0.00210
0.3	0.01399	0.01177	0.00819	0.00002	-0.00729	-0.00834	-0.00659	-0.00409	-0.00174	0.00030	0.00220
0.4	0.00531	0.00706	0.00818	0.00685	-0.00009	-0.00692	-0.00788	-0.00615	-0.00357	-0.00092	0.00167
0.5	0.00043	0.00330	0.00600	0.00777	0.00680	0.00000	-0.00680	-0.00777	-0.00600	-0.00330	-0.00043
0.6	-0.00167	0.00092	0.00357	0.00615	0.00788	0.00692	0.00009	-0.00686	-0.00818	-0.00706	-0.00531
0.7	-0.00220	-0.00030	0.00174	0.00409	0.00659	0.00834	0.00729	-0.00002	-0.00819	-0.01177	-0.01399
0.8	-0.00210	-0.00078	0.00069	0.00259	0.00505	0.00770	0.00929	0.00720	-0.00273	-0.01573	-0.02644
0.9	-0.00193	-0.00090	0.00028	0.00191	0.00419	0.00693	0.00940	0.00926	0.00283	-0.01513	-0.04002
1.0	-0.00189	-0.00091	0.00022	0.00180	0.00403	0.00683	0.00933	0.00948	0.00359	-0.01350	-0.04730

E_{QM}

X/l a/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	2.58048	2.91858	2.27057	1.39933	0.66764	0.18344	-0.07234	-0.15841	-0.12563	0.00000
0.1	0.00000	2.47616	2.91947	2.31307	1.44086	0.70411	0.20521	-0.06284	-0.15672	-0.12702	0.00000
0.2	0.00000	1.89293	2.75147	2.47396	1.69482	0.91859	0.34613	0.00770	-0.13546	-0.12931	0.00000
0.3	0.00000	1.15613	2.06972	2.46767	0.00000	1.77153	0.59774	0.20058	-0.04994	-0.11203	0.00000
0.4	0.00000	0.55502	1.24670	1.94815	0.00000	1.71600	1.24302	0.20484	0.16589	-0.03376	0.00000
0.5	0.00000	0.16762	0.58710	1.21521	1.69773	2.22049	1.09773	1.21531	0.58710	0.16762	0.00000
0.6	0.00000	-0.03376	0.16689	0.60424	1.34362	1.93609	2.30831	1.94815	1.24678	0.55500	0.00000
0.7	0.00000	-0.11243	-0.04994	0.20058	0.68774	1.36758	2.09936	2.48767	2.06972	1.15613	0.00000
0.8	0.00000	-0.12931	-0.13546	0.00770	0.34613	0.91858	1.69482	2.47398	2.75147	1.89293	0.00000
0.9	0.00000	-0.12702	-0.15672	-0.06284	0.20521	0.70411	1.44686	2.31307	2.91947	2.47616	0.00000
1.0	0.00000	-0.12563	-0.15841	-0.07234	0.18344	0.66764	1.39933	2.27057	2.91858	2.58048	0.00000

E_{MM}

X/l a/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000										
0.1	-1.00000	-0.84578	-0.55817	-0.29439	-0.11105	-0.00959	0.03087	0.03476	0.02205	0.00701	0.00000
0.2	0.00000	0.14234									
0.3	0.00000	-0.85766	-0.57455	-0.30818	-0.12013	-0.01441	0.02896	0.03437	0.02219	0.00712	0.00000
0.4	0.00000	0.10261	0.34447								
0.5	0.00000	-0.65553	-0.38691	-0.17696	-0.04751	0.01373	0.02959	0.02178	0.00744	0.00000	
0.6	0.00000	0.05945	0.22337	0.45728							
0.7	0.00000	-0.54272	-0.38797	-0.13389	-0.03245	0.01050	0.01668	0.00704	0.00000		
0.8	0.00000	0.02644	0.11567	0.27636	0.49431						
0.9	0.00000	-0.50569	-0.28843	-0.12876	-0.03768	-0.00106	0.00362	0.00000			
1.0	0.00000	0.00624	0.04195	0.13073	0.28707	0.50000					
0.1	0.00000	-0.00362	0.00106	0.03768	0.12876	0.28843	0.50569				
0.2	0.00000	-0.00704	-0.01668	-0.01050	0.03245	0.13389	0.30797	0.54272			
0.3	0.00000	-0.00744	-0.02178	-0.02959	-0.01373	0.04751	0.17697	0.38691	0.65553		
0.4	0.00000	-0.00712	-0.02219	-0.03437	-0.02896	0.01441	0.12013	0.30818	-0.34447	-0.10261	0.00000
0.5	0.00000	-0.00701	-0.02205	-0.03476	-0.02896	0.01441	0.12013	0.30818	0.57455	0.85766	0.00000
0.6	0.00000	-0.00701	-0.02205	-0.03476	-0.02896	0.01441	0.12013	0.30818	-0.14234	-0.10261	0.00000
0.7	0.00000	-0.00701	-0.02205	-0.03476	-0.02896	0.01441	0.12013	0.30818	0.57455	0.85766	0.00000
0.8	0.00000	-0.00701	-0.02205	-0.03476	-0.02896	0.01441	0.12013	0.30818	-0.14234	-0.10261	0.00000
0.9	0.00000	-0.00701	-0.02205	-0.03476	-0.02896	0.01441	0.12013	0.30818	0.57455	0.85766	0.00000
1.0	0.00000	-0.00701	-0.02205	-0.03476	-0.02896	0.01441	0.12013	0.30818	0.57455	0.85766	0.00000

5VP

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.01809	0.00993	0.00397	0.00255	-0.00013	-0.00124	-0.00102	-0.00064	-0.00028	0.00004	0.00032
0.1	0.00993	0.00756	0.00475	0.00232	0.00072	-0.00010	-0.00039	-0.00040	-0.00028	-0.00012	0.00004
0.2	0.00397	0.00475	0.00500	0.00393	0.00240	0.00113	0.00032	-0.00009	-0.00024	-0.00028	-0.00028
0.3	0.00055	0.00232	0.00393	0.00473	0.00396	0.00255	0.00129	0.00043	-0.00009	-0.00040	-0.00064
0.4	-0.00093	0.00072	0.00240	0.00396	0.00475	0.00399	0.00258	0.00129	0.00032	-0.00039	-0.00102
0.5	-0.00124	-0.00010	0.00113	0.00255	0.00399	0.00476	0.00399	0.00255	0.00113	-0.00010	-0.00124
0.6	-0.00102	-0.00039	0.00032	0.00129	0.00258	0.00399	0.00475	0.00396	0.00240	0.00072	-0.00093
0.7	-0.00064	-0.00040	-0.00009	0.00043	0.00129	0.00255	0.00396	0.00473	0.00393	0.00232	0.00055
0.8	-0.00028	-0.00028	-0.00024	-0.00009	0.00032	0.00113	0.00240	0.00393	0.00500	0.00475	0.00397
0.9	0.00004	-0.00012	-0.00028	-0.00040	-0.00039	-0.00010	0.00072	0.00232	0.00475	0.00756	0.00993
1.0	0.00032	0.00004	-0.00028	-0.00064	-0.00102	-0.00124	-0.00093	0.00055	0.00397	0.00993	0.01809

5MP

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	-0.05951	-0.06530	-0.04687	-0.02367	-0.01287	-0.00343	0.00253	0.00139	0.00066	0.00000
0.1	0.00000	0.02432	-0.01152	-0.02154	-0.01567	-0.01322	-0.00797	-0.00289	-0.00074	-0.00005	0.00000
0.2	0.00000	0.01125	0.04751	0.00963	-0.00759	-0.01196	-0.01010	-0.00624	-0.00292	-0.00073	0.00000
0.3	0.00000	0.00303	0.01631	0.05409	0.01420	-0.00494	-0.01046	-0.00896	-0.00504	-0.00148	0.00000
0.4	0.00000	-0.00100	0.00184	0.01730	0.05362	0.01431	-0.00408	-0.00872	-0.00535	-0.00215	0.00000
0.5	0.00000	-0.00229	-0.00507	-0.00175	0.01512	0.05288	0.01512	-0.00175	-0.00507	-0.00229	0.00000
0.6	0.00000	-0.00215	-0.00535	-0.00872	-0.00408	0.01431	0.05362	0.01730	0.00184	-0.00100	0.00000
0.7	0.00000	-0.00148	-0.00504	-0.00896	-0.01046	-0.00494	0.01420	0.05409	0.01631	0.00303	0.00000
0.8	0.00000	-0.00073	-0.00292	-0.00504	-0.01010	-0.00797	0.00757	0.00963	0.04751	0.01125	0.00000
0.9	0.00000	-0.00005	-0.00073	-0.00292	-0.01196	-0.01322	-0.01567	-0.02154	-0.01152	0.02432	0.00000
1.0	0.00000	0.00066	0.00139	0.00253	0.00343	0.00467	0.00591	0.00719	0.00847	0.00975	0.00000

5QP

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	
0.0	0.00000	-1.00000	-0.26282	0.09437	0.20400	0.18715	0.12607	0.06483	0.02071	-0.00335	-0.00955	0.00000
0.1	0.00000	0.46551	-0.53449	-0.20720	-0.02283	0.05407	0.06765	0.05279	0.03103	0.01292	0.00230	0.00000
0.2	0.00000	0.23203	0.49555	-0.50445	-0.26292	-0.09515	-0.00330	0.03336	0.03823	0.02073	0.01470	0.00000
0.3	0.00000	0.07625	0.24350	0.47941	-0.52059	-0.28426	-0.11102	-0.01069	0.03308	0.04086	0.02753	0.00000
0.4	0.00000	-0.00550	0.07727	0.24743	0.48459	-0.51541	-0.27774	-0.10277	-0.00133	0.04010	0.03754	0.00000
0.5	0.00000	-0.03572	-0.00901	0.00792	0.26232	0.50000	-0.27774	-0.10277	-0.00133	0.04010	0.03754	0.00000
0.6	0.00000	-0.03754	-0.04010	0.00134	0.10276	0.27774	0.51541	-0.48459	-0.24743	-0.07727	0.00550	0.00000
0.7	0.00000	-0.02753	-0.04086	-0.03307	0.01069	0.11102	0.28427	0.52059	-0.47941	-0.24361	-0.07626	0.00000
0.8	0.00000	-0.01470	-0.02073	-0.03823	-0.03336	0.00330	0.09515	0.26292	0.50445	-0.49555	-0.23203	0.00000
0.9	0.00000	-0.00230	-0.01292	-0.03103	-0.05279	-0.06765	-0.05407	0.02283	0.20719	0.53449	-0.46551	0.00000
1.0	0.00000	0.00955	0.00335	-0.02071	-0.06483	-0.12607	-0.18715	-0.20400	-0.09437	0.26283	1.00000	0.00000

E_{ym}

X/l a/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.04343	0.01143	-0.00409	-0.00889	-0.00822	-0.00565	-0.00328	-0.00119	0.00011	0.00079	0.00142
0.1	0.03625	0.01308	-0.00335	-0.00871	-0.00831	-0.00582	-0.00323	-0.00129	-0.00004	0.00079	0.00147
0.2	0.02318	0.01382	0.00208	-0.00686	-0.00836	-0.00668	-0.00408	-0.00192	-0.00038	0.00073	0.00168
0.3	0.01158	0.01017	0.00739	-0.00001	-0.00673	-0.00745	-0.00566	-0.00333	-0.00129	0.00040	0.00192
0.4	0.00386	0.00588	0.00731	0.00642	-0.00002	-0.00640	-0.00710	-0.00535	-0.00294	-0.00056	0.00172
0.5	-0.00019	0.00257	0.00521	0.00706	0.00637	0.00000	-0.00637	-0.00706	-0.00521	-0.00257	0.00019
0.6	-0.00172	0.00056	0.00294	0.00535	0.00710	0.00640	0.00002	-0.00642	-0.00731	-0.00588	+0.00386
0.7	-0.00192	-0.00040	0.00129	0.00333	0.00566	0.00745	0.00673	0.00001	-0.00739	-0.01017	-0.01158
0.8	-0.00168	-0.00073	0.00073	0.00192	0.00408	0.00668	0.00836	0.00686	-0.00208	-0.01382	-0.02318
0.9	-0.00147	-0.00079	0.00004	0.00142	0.00323	0.00582	0.00831	0.00871	0.00336	-0.01308	-0.03625
1.0	-0.00142	-0.00079	-0.00001	0.00119	0.00322	0.00565	0.00822	0.00889	0.00409	-0.01143	-0.04343

E_{OM}

X/l a/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	2.74475	3.01264	2.25424	1.31652	0.57404	0.11479	-0.10516	-0.16263	-0.11702	0.00000
0.1	0.00000	2.62748	3.01938	2.30647	1.37109	0.61357	0.13671	-0.09691	-0.16238	-0.12015	0.00000
0.2	0.00000	1.96969	2.85315	2.51059	1.60823	0.84042	0.28136	-0.03190	-0.14909	-0.12809	0.00000
0.3	0.00000	1.15751	2.11288	2.56469	2.13437	1.34684	0.64013	0.16331	-0.07860	-0.12361	0.00000
0.4	0.00000	0.51794	1.22883	1.99026	2.39704	1.98757	1.23704	0.56437	0.12293	-0.06191	0.00000
0.5	0.00000	0.12624	0.54138	1.20491	1.95177	2.35820	1.95177	1.20491	0.54138	0.12624	0.00000
0.6	0.00000	-0.06191	0.12293	0.55437	1.23784	1.98757	2.39703	1.99026	1.22883	0.51794	0.00000
0.7	0.00000	-0.12361	-0.07860	0.15331	0.64013	1.34684	2.13437	2.56469	2.11288	1.15751	0.00000
0.8	0.00000	-0.12809	-0.14909	-0.03190	0.28136	0.84042	1.65823	2.51099	2.85315	1.96969	0.00000
0.9	0.00000	-0.12015	-0.16238	-0.09691	0.13671	0.61357	1.37109	2.30647	3.01938	2.62748	0.00000
1.0	0.00000	-0.11702	-0.16263	-0.10516	0.11479	0.57404	1.31652	2.25423	3.01264	2.74475	0.00000

E_{MM}

X/l a/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000										
0.1	-1.00000	-0.83451	-0.53299	-0.26549	-0.08759	0.00464	0.03680	0.03561	0.02116	0.00645	0.00000
0.2	0.00000	0.15182	-0.84818	-0.55138	-0.28043	-0.09696	0.00004	0.03526	0.03553	0.02146	0.00000
0.3	0.00000	0.10673	-0.35818	-0.64182	-0.36578	-0.15605	-0.03231	0.02193	0.03249	0.02208	0.00724
0.4	0.00000	0.05911	0.22503	0.46539	-0.53461	-0.29379	-0.11914	-0.02141	0.01671	0.01913	0.00753
0.5	0.00000	0.02410	0.11014	0.27184	0.49684	-0.50316	-0.27836	-0.11655	-0.02805	0.00417	0.00512
0.6	0.00000	0.00386	0.03488	0.12054	0.27893	0.50000	-0.50000	-0.27893	-0.12053	-0.03488	-0.00386
0.7	0.00000	-0.00512	-0.00417	0.02806	0.11655	0.27835	0.50316	-0.49684	-0.27183	-0.11014	-0.02410
0.8	0.00000	-0.00753	-0.01913	-0.01670	0.02141	0.11914	0.29379	0.53461	-0.46539	-0.22504	-0.05911
0.9	0.00000	-0.00724	-0.02208	-0.03249	-0.02193	0.03231	0.15605	0.36578	0.64182	0.55138	-0.10673
1.0	0.00000	-0.00645	-0.02146	-0.03553	-0.02116	0.00645	0.03561	0.28043	0.51382	0.84818	-0.15182

E_{YP}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.01600	0.00852	0.00318	0.00025	-0.00091	-0.00107	-0.00081	-0.00047	-0.00018	0.00006	0.00027
0.1	0.00852	0.00550	0.00403	0.00190	0.00054	-0.00013	-0.00034	-0.00032	-0.00021	-0.00007	0.00006
0.2	0.00318	0.00403	0.00437	0.00341	0.00203	0.00090	0.00022	-0.00011	-0.00021	-0.00021	-0.00018
0.3	0.00025	0.00190	0.00341	0.00418	0.00345	0.00214	0.00102	0.00029	-0.00011	-0.00032	-0.00047
0.4	-0.00091	0.00054	0.00283	0.00345	0.00419	0.00346	0.00216	0.00102	0.00022	-0.00034	-0.00081
0.5	-0.00107	-0.00013	0.00090	0.00214	0.00346	0.00418	0.00346	0.00214	0.00090	-0.00013	-0.00107
0.6	-0.00081	-0.00034	0.00022	0.00102	0.00216	0.00346	0.00419	0.00345	0.00203	0.00054	-0.00091
0.7	-0.00047	-0.00032	-0.00011	0.00029	0.00102	0.00214	0.00345	0.00418	0.00341	0.00190	0.00025
0.8	-0.00018	-0.00021	-0.00021	-0.00011	0.00022	0.00090	0.00203	0.00341	0.00437	0.00403	0.00318
0.9	0.00006	-0.00007	-0.00021	-0.00032	-0.00034	-0.00013	0.00054	0.00190	0.00403	0.00650	0.00852
1.0	0.00027	0.00006	-0.00018	-0.00047	-0.00081	-0.00107	-0.00091	0.00025	0.00318	0.00852	0.01600

E_{MP}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	-0.05814	-0.06187	-0.04446	-0.02457	-0.00889	-0.00170	0.00144	0.00160	0.00062	0.00000
0.1	0.00000	0.02459	-0.01052	-0.02023	-0.01767	-0.01139	-0.00571	-0.00206	-0.00037	0.00005	0.00000
0.2	0.00000	-0.01085	0.04666	0.00997	-0.00750	-0.01135	-0.00922	-0.00555	-0.00244	-0.00058	0.00000
0.3	0.00000	0.00250	0.01680	0.05205	0.01256	-0.00566	-0.01035	-0.00848	-0.00461	-0.00132	0.00000
0.4	0.00000	-0.00135	0.00867	0.01533	0.05122	0.01241	-0.00506	-0.00892	-0.00523	-0.00206	0.00000
0.5	0.00000	-0.00238	-0.00555	-0.00296	0.01309	0.05047	0.01309	-0.00296	-0.00555	-0.00238	0.00000
0.6	0.00000	-0.00206	-0.00623	-0.00093	-0.00506	0.01241	0.05122	0.01533	0.00067	-0.00135	0.00000
0.7	0.00000	-0.00132	-0.00461	-0.00048	-0.01035	-0.00566	0.01256	0.05205	0.01680	0.00250	0.00000
0.8	0.00000	-0.00058	-0.00244	-0.00555	-0.00922	-0.01135	-0.00760	0.00897	0.04666	0.01085	0.00000
0.9	0.00000	0.00005	-0.00037	-0.00206	-0.00571	-0.01139	-0.01767	-0.00206	-0.01052	0.02459	0.00000
1.0	0.00000	0.00062	0.00160	0.00144	-0.00170	-0.00889	-0.02457	-0.04446	-0.06187	-0.05814	0.00000

E_{OP}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	-1.00000	0.11106	0.20605	0.17007	0.11332	0.05323	0.01307	-0.00682	-0.01026	0.00000
0.1	0.00000	0.47895	-0.19915	-0.01740	0.05107	0.06406	0.04716	0.02506	0.00921	0.00045	0.00000
0.2	0.00000	0.22600	0.49386	-0.50614	-0.25782	-0.00000	0.00133	0.03411	0.03593	0.02522	0.01199
0.3	0.00000	0.06716	0.23476	-0.47869	-0.52130	-0.27660	-0.10144	-0.00441	0.03450	0.03879	0.02482
0.4	0.00000	-0.01196	0.06786	0.24831	-0.48542	-0.51458	-0.26951	-0.09351	0.00427	0.04124	0.03637
0.5	0.00000	-0.03788	-0.01469	0.07948	0.25527	-0.50000	-0.25527	-0.07947	0.01469	0.03788	0.00000
0.6	0.00000	-0.03637	-0.04124	-0.00426	0.09350	0.26950	-0.48542	-0.24830	-0.06786	0.01196	0.00000
0.7	0.00000	-0.02482	-0.03879	-0.03449	0.00441	0.10144	0.27661	0.52131	-0.47870	-0.23478	-0.06718
0.8	0.00000	-0.01199	-0.02522	-0.03593	-0.03411	-0.00133	0.00009	0.25782	0.50614	-0.49386	-0.22600
0.9	0.00000	-0.00045	-0.00920	-0.02586	-0.04738	-0.06406	-0.05457	0.01739	0.19913	0.52905	-0.47095
1.0	0.00000	0.01026	0.00682	-0.01308	-0.05323	-0.11332	-0.17887	-0.20685	-0.11106	0.24127	1.00000

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.01202	0.00591	0.00182	-0.00018	-0.00079	-0.00072	-0.00045	-0.00020	-0.00004	0.00006	0.00014
0.1	0.00591	0.00457	0.00275	0.00118	0.00025	-0.00015	-0.00024	-0.00018	-0.00010	-0.00002	0.00006
0.2	0.00182	0.00275	0.00321	0.00246	0.00135	0.00051	0.00005	-0.00012	-0.00014	-0.00010	-0.00004
0.3	-0.00018	0.00118	0.00246	0.00314	0.00249	0.00141	0.00056	0.00008	-0.00012	-0.00018	-0.00020
0.4	-0.00079	0.00025	0.00135	0.00249	0.00311	0.00247	0.00140	0.00056	0.00005	-0.00024	-0.00045
0.5	-0.00072	-0.00015	0.00051	0.00141	0.00247	0.00309	0.00247	0.00141	0.00051	-0.00015	-0.00072
0.6	-0.00045	-0.00024	0.00005	0.00056	0.00140	0.00247	0.00311	0.00249	0.00135	0.00025	-0.00079
0.7	-0.00020	-0.00018	-0.00012	0.00008	0.00056	0.00141	0.00249	0.00314	0.00246	0.00118	-0.00018
0.8	-0.00004	-0.00010	-0.00014	-0.00012	0.00005	0.00051	0.00135	0.00246	0.00321	0.00275	0.00182
0.9	0.00006	-0.00002	-0.00010	-0.00018	-0.00024	-0.00015	0.00025	0.00118	0.00275	0.00457	0.00591
1.0	0.00014	0.00006	-0.00004	-0.00020	-0.00045	-0.00072	-0.00079	-0.00018	0.00182	0.00591	0.01202

F_{MP}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	-0.05483	-0.05392	-0.03478	-0.01626	-0.00444	0.00095	0.00222	0.00158	0.00052	0.00000
0.1	0.00000	0.02511	-0.00848	-0.01669	-0.01359	-0.00782	-0.00322	-0.00069	0.00018	0.00016	0.00000
0.2	0.00000	0.00976	0.04435	0.00720	-0.00767	-0.00994	-0.00722	-0.00382	-0.00142	-0.00027	0.00000
0.3	0.00000	0.00124	0.01325	0.04735	0.00899	-0.00688	-0.00966	-0.00702	-0.00345	-0.00090	0.00000
0.4	0.00000	-0.00204	-0.00176	0.01894	0.04608	0.00858	-0.00662	-0.00879	-0.00558	-0.00173	0.00000
0.5	0.00000	-0.00243	-0.00620	-0.00510	0.00904	0.04545	0.00904	-0.00510	-0.00662	0.00243	0.00000
0.6	0.00000	-0.00173	-0.00558	-0.00879	-0.00662	0.00858	0.04608	0.01094	-0.00176	-0.00204	0.00000
0.7	0.00000	-0.00090	-0.00345	-0.00702	-0.00966	-0.00688	0.00899	0.04735	0.01325	0.00124	0.00000
0.8	0.00000	-0.00027	-0.00142	-0.00382	-0.00722	-0.00994	-0.00767	0.00720	0.04435	0.00976	0.00000
0.9	0.00000	0.00052	0.00016	0.00018	-0.00069	-0.00322	-0.00782	-0.01359	-0.01669	-0.00848	0.02511
1.0	0.00000	0.00052	0.00158	0.00222	0.00095	-0.00444	-0.01626	-0.03478	-0.05392	-0.05483	0.00000

F_{OP}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	
0.0	0.00000	-1.00000	-0.19021	0.14581	0.20673	0.15466	0.08287	0.02919	0.00002	-0.01046	-0.00919	0.00000
0.1	0.00000	0.48195	-0.51805	-0.18178	-0.00638	0.05415	0.05511	0.03562	0.01585	0.00297	-0.00211	0.00000
0.2	0.00000	0.20961	0.48943	-0.51058	-0.24422	-0.07026	0.01215	0.03520	0.03023	0.01740	0.00638	0.00000
0.3	0.00000	0.04570	0.21407	0.47863	-0.52137	-0.25613	-0.07792	0.00938	0.03599	0.03240	0.01775	0.00000
0.4	0.00000	-0.02500	0.04740	0.22415	0.48047	-0.51153	-0.24862	-0.07178	0.01541	0.04108	0.03149	0.00000
0.5	0.00000	-0.04011	-0.02510	0.06879	0.23823	0.50000	-0.50000	-0.23823	-0.06079	0.02510	0.04011	0.00000
0.6	0.00000	-0.03149	-0.04108	-0.01541	0.07178	0.24862	0.51153	-0.48847	-0.22415	-0.04740	0.02500	0.00000
0.7	0.00000	-0.01775	-0.03240	-0.03599	-0.00938	0.07792	0.25613	0.52137	-0.47863	-0.21407	-0.04570	0.00000
0.8	0.00000	-0.00638	-0.01740	-0.03023	-0.03520	0.01215	0.07026	0.24421	0.51057	-0.48943	-0.20961	0.00000
0.9	0.00000	0.00211	-0.00297	-0.01585	-0.03149	-0.05511	-0.05415	0.00638	0.018179	0.01095	-0.48195	0.00000
1.0	0.00000	0.00919	0.01046	-0.00002	-0.02919	-0.08287	-0.15466	-0.20673	-0.14580	0.19021	1.00000	0.00000

ϵ_{yp}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00926	0.00419	0.00101	-0.00235	-0.00252	-0.00045	-0.00023	-0.00007	0.00001	0.00004	0.00005
0.1	0.00419	0.00331	0.00194	0.00076	0.00210	-0.00214	-0.00015	-0.00010	-0.00004	0.00000	0.00004
0.2	0.00101	0.00194	0.00244	0.00183	0.00092	0.00028	-0.00002	-0.00011	-0.00009	-0.00004	0.00001
0.3	-0.00235	0.00076	0.00183	0.00241	0.00184	0.00094	0.00030	-0.00002	-0.00011	-0.00010	-0.00007
0.4	-0.00252	0.00010	0.00092	0.00184	0.00238	0.00181	0.00093	0.00030	-0.00002	-0.00016	-0.00023
0.5	-0.00045	-0.00014	0.00020	0.00094	0.00181	0.00235	0.00181	0.00094	0.00020	-0.00014	-0.00046
0.6	-0.00023	-0.00015	-0.00002	0.00030	0.00093	0.00161	0.00238	0.00184	0.00092	0.00010	-0.00062
0.7	-0.00007	-0.00010	-0.00011	-0.00002	0.00030	0.00092	0.00161	0.00238	0.00184	0.00092	-0.00035
0.8	0.00001	-0.00004	-0.00009	-0.00011	-0.00002	0.00092	0.00161	0.00238	0.00184	0.00092	0.00101
0.9	0.00004	0.00000	-0.00004	-0.00010	-0.00015	-0.00014	0.00010	0.00092	0.00184	0.00092	0.00419
1.0	0.00005	0.00004	0.00001	-0.00007	-0.00023	-0.00045	-0.00062	-0.00035	0.00101	0.00419	0.00926

ϵ_{MP}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	-0.05165	-0.04678	-0.02682	-0.01200	-0.00117	0.00198	0.00208	0.00118	0.00033	0.00000
0.1	0.00000	0.02542	-0.00695	-0.01355	-0.01754	-0.00534	-0.00169	0.00000	0.00038	0.00018	0.00000
0.2	0.00000	0.00000	0.04190	0.00539	-0.00773	-0.00862	-0.00549	-0.00243	-0.00067	-0.00026	0.00000
0.3	0.00000	0.00013	0.01006	0.04319	0.02611	-0.00746	-0.00857	-0.00548	-0.00235	-0.00053	0.00000
0.4	0.00000	-0.00248	-0.00352	0.00748	0.04193	0.00577	-0.00729	-0.00806	-0.00455	-0.00134	0.00000
0.5	0.00000	-0.00229	-0.00625	-0.00630	0.00507	0.04153	0.00507	-0.00530	-0.00625	-0.00229	0.00000
0.6	0.00000	-0.00134	-0.00455	-0.00626	-0.00729	0.00577	0.04193	0.00748	-0.00352	-0.00248	0.00000
0.7	0.00000	-0.00053	-0.00235	-0.00548	-0.00746	-0.00746	0.00611	0.04319	0.01006	0.00013	0.00000
0.8	0.00000	-0.00006	-0.00067	-0.00243	-0.00549	-0.00862	-0.00773	0.00539	0.04190	0.00060	0.00000
0.9	0.00000	0.00018	0.00038	0.00000	-0.00169	-0.00534	-0.01054	-0.01395	-0.00695	0.02542	0.00000
1.0	0.00000	0.00033	0.00118	0.00208	0.00198	-0.00117	-0.01020	-0.02682	-0.04678	-0.05165	0.00000

ϵ_{QP}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	-0.99998	0.17162	0.19857	0.12815	0.05613	0.01193	-0.00655	-0.00983	-0.00635	0.00000
0.1	0.00000	0.48979	-0.51021	-0.16749	0.00197	0.05220	0.04656	0.02610	0.00905	-0.00025	-0.00278
0.2	0.00000	0.19210	0.48532	-0.51468	-0.22939	-0.05278	0.02119	0.03482	0.02461	0.01107	0.00225
0.3	0.00000	0.02648	0.19537	0.48031	-0.51969	-0.23489	-0.05612	0.02005	0.03512	0.02544	0.01124
0.4	0.00000	-0.03395	0.03067	0.20936	0.49106	-0.50014	-0.20006	-0.05225	0.02326	0.03812	0.02521
0.5	0.00000	-0.03888	-0.03138	0.04462	0.22155	0.50000	-0.20000	-0.22155	-0.04463	0.03137	0.03008
0.6	0.00000	-0.02521	-0.03812	-0.02326	0.05225	0.20007	0.50014	-0.49106	-0.20936	-0.03067	0.03395
0.7	0.00000	-0.01124	-0.02544	-0.03512	-0.02005	0.05613	0.23488	-0.51969	-0.48031	-0.19537	-0.02648
0.8	0.00000	-0.00225	-0.01107	-0.02461	-0.03482	-0.02119	0.05278	0.22939	-0.48532	-0.19210	0.00000
0.9	0.00000	0.00278	0.00025	-0.00905	-0.02610	-0.04656	-0.05220	-0.00197	0.16749	-0.48979	0.00000
1.0	0.00000	0.00635	0.00983	0.00655	-0.01193	-0.05613	-0.12815	-0.19857	-0.17163	0.14305	1.00000

E_{ym}

X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.02778	0.00397	-0.20477	-0.00552	-0.00356	-0.00156	-0.00034	0.00017	0.00026	0.00019	0.00008
0.1	0.02119	0.00570	-0.00423	-0.00555	-0.00375	-0.00173	-0.00043	0.00013	0.00026	0.00020	0.00010
0.2	0.01083	0.00697	0.00033	-0.00481	-0.00445	-0.00259	-0.00101	-0.00013	0.00020	0.00026	0.00025
0.3	0.00343	0.00460	0.00458	0.00004	-0.00436	-0.00397	-0.00230	-0.00090	-0.00009	0.00031	0.00058
0.4	-0.00015	0.00207	0.00405	0.00449	0.00011	-0.00429	-0.00396	-0.00233	-0.00086	0.00017	0.00101
0.5	-0.00117	0.00049	0.00230	0.00406	0.00441	0.00000	-0.00441	-0.00406	-0.00230	-0.00049	0.00117
0.6	-0.00101	-0.00017	0.00006	0.00233	0.00395	0.00429	-0.00011	-0.00449	-0.00405	-0.00207	0.00015
0.7	-0.00258	-0.00031	0.00009	0.00093	0.00030	0.00797	0.00436	-0.00004	-0.00458	-0.00400	-0.00343
0.8	-0.00025	-0.00026	-0.00020	0.00013	0.00001	0.00559	0.00446	0.00481	-0.00033	-0.00037	-0.00093
0.9	-0.00010	-0.00020	-0.00026	-0.00013	0.00001	0.00173	0.00375	0.00555	0.00423	-0.00570	-0.00119
1.0	-0.00008	-0.00019	-0.00026	-0.00017	0.00034	0.00156	0.00356	0.00552	0.00477	-0.00397	-0.00278

E_{QM}

X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	3.71850	3.26862	1.93120	1.00100	1.00000	-0.14492	-0.15323	-0.09412	-0.03442	0.00000
0.1	0.00000	3.51477	3.44427	2.26126	1.00000	0.10000	-0.10000	-0.15753	-0.10000	-0.03916	0.00000
0.2	0.00000	2.32425	3.38475	2.62626	1.35000	0.40000	-0.01342	-0.14658	-0.12000	0.06602	0.00000
0.3	0.00000	1.04732	2.26975	3.03823	2.30100	1.10000	0.36605	-0.03563	-0.15156	-0.11629	0.00000
0.4	0.00000	0.24941	1.05626	2.2214	2.97372	2.27756	1.15117	0.33010	-0.07365	-0.15538	0.00000
0.5	0.00000	-0.28871	0.26985	1.10147	2.25621	2.95153	2.25621	1.10147	0.26985	-0.08871	0.00000
0.6	0.00000	-0.15538	-0.07365	0.33010	1.15117	2.27756	2.97372	2.22318	1.05626	0.24941	0.00000
0.7	0.00000	-0.11639	-0.15156	-0.03563	0.36605	1.18505	2.32196	3.03822	2.62625	3.38475	2.32425
0.8	0.00000	-0.06602	-0.12000	-0.14658	-0.01342	0.43927	1.35927	2.62625	3.38475	2.32425	0.00000
0.9	0.00000	-0.03916	-0.10000	-0.15753	-0.10000	0.10000	0.82575	2.06125	3.44427	3.51477	0.00000
1.0	0.00000	-0.03442	-0.09412	-0.15323	-0.14492	0.00399	0.73438	1.93150	3.36862	3.71850	0.00000

E_{MM}

X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000										
0.1	-1.00000	-0.76284	-0.38987	-0.12344	0.00557	0.04219	0.03650	0.02041	0.00775	0.00148	0.00000
0.2	0.00000	0.20904	-0.79096	-0.42185	-0.14393	-0.00336	0.04026	0.03743	0.02176	0.00860	0.00174
0.3	0.00000	0.12445	0.42403	-0.57597	-0.26454	-0.06617	0.01968	0.03753	0.02764	0.01314	0.00326
0.4	0.00000	0.04980	0.21658	0.49259	-0.50741	-0.20014	0.01822	0.03174	0.02064	0.00618	0.00000
0.5	0.00000	0.00766	0.06862	0.23154	0.50065	-0.49935	-0.02747	-0.05688	0.01360	0.02326	0.00957
0.6	0.00000	-0.00802	-0.00290	0.06178	0.22078	0.50000	-0.22879	-0.06179	0.00289	0.00802	0.00000
0.7	0.00000	-0.00957	-0.02326	-0.01360	0.05688	0.22748	0.49935	-0.50065	-0.23154	-0.06862	-0.00766
0.8	0.00000	-0.00630	-0.02064	-0.03174	-0.01822	0.05571	0.23010	0.50741	-0.49259	-0.21657	-0.04980
0.9	0.00000	-0.00326	-0.01314	-0.02764	-0.03753	-0.01967	0.06617	0.26454	0.57597	-0.42403	-0.12445
1.0	0.00000	-0.00174	-0.00860	-0.02176	-0.03743	-0.04026	0.00336	0.14393	0.42185	0.79096	-0.20904
1.0	0.00000	-0.00148	-0.00775	-0.02041	-0.03650	-0.04218	-0.00557	0.12344	0.38987	0.76284	1.00000
1.0	0.00000										0.00000

L1 = 6.5

ϵ_{YP}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00720	0.00301	0.00053	-0.00739	-0.0046	-0.0028	-0.0011	-0.0001	0.00002	0.00002	0.00002
0.1	0.00303	0.00247	0.00141	0.00052	0.0003	-0.0011	-0.0010	-0.0005	-0.00032	0.0001	0.00002
0.2	0.00053	0.00141	0.00191	0.00138	0.00063	0.00015	-0.00025	-0.00028	-0.00006	-0.00002	0.00002
0.3	-0.00038	0.00050	0.00138	0.00109	0.00130	0.00063	0.00015	-0.00005	-0.00008	-0.00005	-0.00001
0.4	-0.00046	0.00003	0.00053	0.00138	0.00186	0.00135	0.00062	0.00015	-0.00005	-0.00010	-0.00011
0.5	-0.00028	-0.00011	0.00015	0.00063	0.00135	0.00184	0.00135	0.00053	0.00015	-0.00011	-0.00028
0.6	-0.00011	-0.00010	-0.00005	0.00015	0.00062	0.00135	0.00186	0.00138	0.00063	0.00003	-0.00046
0.7	-0.00001	-0.00005	-0.00008	-0.00005	0.00015	0.00063	0.00138	0.00189	0.00138	0.00050	-0.00038
0.8	0.00002	-0.00002	-0.00006	-0.00008	-0.00005	0.00015	0.00063	0.00138	0.00191	0.00141	0.00053
0.9	0.00002	0.00001	-0.00002	-0.00005	-0.00010	-0.00011	0.00003	0.00050	0.00141	0.00247	0.00303
1.0	0.00002	0.00002	0.00002	-0.00001	-0.00011	-0.00028	-0.00046	-0.00038	0.00053	0.00303	0.00720

ϵ_{MP}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	-0.04861	-0.04040	-0.02033	-0.02589	0.00264	0.00213	0.00159	0.00072	0.00017	0.00000
0.1	0.00000	0.02556	-0.00585	-0.01182	-0.00823	-0.00362	-0.00077	0.00031	0.00039	0.00015	0.00000
0.2	0.00000	0.00740	0.03944	0.00368	-0.00768	-0.00738	-0.00405	-0.00140	-0.00017	0.00007	0.00000
0.3	0.00000	-0.00082	0.00728	0.03957	0.00382	-0.00758	-0.00735	-0.00406	-0.00144	-0.00024	0.00000
0.4	0.00000	-0.00278	-0.00478	0.00478	0.03853	0.00364	-0.00743	-0.00706	-0.00355	-0.00095	0.00000
0.5	0.00000	-0.00202	-0.00591	-0.00685	0.00383	0.00382	0.00383	-0.00665	-0.00591	-0.00002	0.00000
0.6	0.00000	-0.00095	-0.00365	-0.00726	-0.00743	0.00364	0.00382	0.00478	-0.00478	-0.00078	0.00000
0.7	0.00000	-0.00024	-0.00144	-0.00406	-0.00735	-0.00760	0.00382	0.00395	0.00728	-0.00002	0.00000
0.8	0.00000	0.00007	-0.00017	-0.00146	-0.00406	-0.00760	0.00382	0.00395	0.00728	-0.00002	0.00000
0.9	0.00000	0.00015	0.00039	0.00031	-0.00117	-0.00362	-0.00077	-0.00031	-0.00039	0.00015	0.00000
1.0	0.00000	0.00017	0.00072	0.00159	0.00264	0.00213	-0.00264	-0.00159	-0.00072	-0.00017	0.00000

ϵ_{QP}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000										
0.1	-1.00000	-0.09965	0.18970	0.18484	0.10192	0.03431	0.00068	-0.00885	-0.00751	-0.00350	0.00000
0.2	0.00000	0.49504	-0.50496	-0.15528	0.00858	0.04944	0.03871	0.01852	0.00451	-0.00167	-0.00253
0.3	0.00000	0.17420	0.48203	-0.51797	-0.21353	-0.03631	0.02795	0.03288	0.01918	0.00626	-0.00026
0.4	0.00000	0.00988	0.17855	0.48296	-0.51704	-0.03631	0.02795	0.03288	0.01918	0.00626	-0.00026
0.5	0.00000	-0.03929	0.01697	0.19511	0.49481	-0.50519	-0.20842	-0.03500	0.02854	0.03378	0.01881
0.6	0.00000	-0.03541	-0.03472	0.03027	0.20495	0.50000	-0.50000	-0.20495	-0.03027	0.03472	0.03541
0.7	0.00000	-0.01881	-0.03378	-0.02854	0.03500	0.20842	0.50519	-0.49481	-0.19511	-0.01697	0.03929
0.8	0.00000	-0.00604	-0.01889	-0.03257	-0.02751	0.03692	0.21396	0.51704	-0.48296	-0.17854	-0.00988
0.9	0.00000	0.00026	-0.00626	-0.01918	-0.03288	-0.02795	0.03631	0.21354	0.51797	-0.48204	-0.17421
1.0	0.00000	0.00253	0.00167	-0.00451	-0.01889	-0.03071	-0.04944	-0.00057	0.15527	0.50496	0.00000

L.l = 6.5

ξ_{ym}

$a/l \backslash X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	
0.0	0.02367	0.00236	-0.00449	-0.00458	-0.00467	-0.00475	-0.00481	0.00201	0.00032	0.00218	0.00008	-0.00003
0.1	0.01731	0.00409	-0.00404	-0.00447	-0.00482	-0.00505	-0.00528	0.00020	0.00020	0.00219	0.00009	-0.00002
0.2	0.00794	0.00547	0.00213	-0.00411	-0.00435	-0.00475	-0.00505	0.00005	0.00005	0.00219	0.00015	0.00006
0.3	0.00186	0.00344	0.00393	0.00207	-0.00374	-0.00313	-0.00159	-0.00047	0.00005	0.00220	0.00023	0.00029
0.4	-0.00060	0.00137	0.00323	0.00389	0.00229	-0.00372	-0.00314	-0.00162	-0.00047	0.00220	0.00020	0.00068
0.5	-0.00101	0.00020	0.00162	0.00322	0.00301	0.00000	-0.00301	-0.00322	-0.00162	-0.00020	0.00101	0.00101
0.6	-0.00068	-0.00020	0.00047	0.00162	0.00314	0.00372	-0.00009	-0.00309	-0.00323	-0.00137	0.00060	0.00060
0.7	-0.00029	-0.00023	-0.00005	0.00047	0.00159	0.00313	0.00374	-0.00007	-0.00393	-0.00344	-0.00188	-0.00188
0.8	-0.00005	-0.00015	-0.00019	-0.00005	0.00025	0.00175	0.00345	0.00411	-0.00013	-0.00547	-0.00794	-0.00794
0.9	0.00002	-0.00009	-0.00019	-0.00020	0.00006	0.00095	0.00262	0.00447	0.00404	-0.00409	-0.01731	-0.01731
1.0	0.00003	-0.00008	-0.00018	-0.00022	0.00001	0.00081	0.00241	0.00438	0.00449	-0.00236	-0.02367	-0.02367

ξ_{QM}

$a/l \backslash X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	
0.0	0.00000	4.10712	3.41367	1.71750	2.49743	-0.05449	-2.17965	-0.13171	-0.05544	-0.00970	0.00000	0.00000
0.1	0.00000	3.86649	3.53772	1.88859	0.60302	-0.21022	-0.17351	-0.13833	-0.26269	-0.01258	0.00000	0.00000
0.2	0.00000	2.41853	3.58126	2.64152	1.20941	0.29347	-0.28833	-0.18251	-0.10224	-0.03754	0.00000	0.00000
0.3	0.00000	0.95662	2.33593	2.25099	2.39000	1.09928	0.25684	-0.08998	-0.14976	-0.09025	0.00000	0.00000
0.4	0.00000	0.13628	0.96723	2.30833	2.20703	2.37356	1.02891	0.23348	-0.12272	-0.15925	0.00000	0.00000
0.5	0.00000	-0.14707	0.15935	1.03535	2.26705	2.24357	0.25709	1.03535	0.15936	-0.14707	0.00000	0.00000
0.6	0.00000	-0.15925	-0.12272	0.09025	1.02891	0.07450	0.25709	2.20535	0.96723	0.13629	0.00000	0.00000
0.7	0.00000	-0.09325	-0.14976	-0.08998	1.09928	1.00000	0.00000	0.25709	2.33692	0.96723	0.00000	0.00000
0.8	0.00000	-0.03754	-0.10224	-0.13833	0.00000	0.00000	1.00000	2.64152	2.58126	2.41853	0.00000	0.00000
0.9	0.00000	-0.01258	-0.03754	-0.10224	0.00000	0.00000	0.00000	1.00000	3.53772	3.86649	0.00000	0.00000
1.0	0.00000	-0.00970	-0.05544	-0.13171	-0.17965	-0.05449	0.00000	1.71750	2.41367	4.10712	0.00000	0.00000

ξ_{MM}

$a/l \backslash X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	
0.0	0.00000	-1.00000	-0.73153	-0.33551	-0.07952	0.02530	0.04266	0.02860	0.01236	0.00306	0.00011	0.00000
0.1	0.00000	0.23243	-0.76757	-0.37357	-0.10133	0.01754	0.04216	0.03028	0.01388	0.00383	0.00030	0.00000
0.2	0.00000	0.12813	0.44372	-0.55628	-0.23286	-0.04197	0.02854	0.03511	0.02140	0.00838	0.00162	0.00000
0.3	0.00000	0.04316	0.20622	0.49691	-0.50309	-0.04197	0.02854	0.03511	0.02140	0.00838	0.00162	0.00000
0.4	0.00000	0.00097	0.05055	0.21224	0.50009	-0.49991	-0.20883	-0.03790	0.02333	0.02544	0.00936	0.00000
0.5	0.00000	-0.01095	-0.01410	0.04127	0.20897	0.50000	-0.50000	-0.20897	-0.04127	0.01410	0.01095	0.00000
0.6	0.00000	-0.00936	-0.02544	-0.02333	0.03790	0.20883	0.49991	-0.50009	-0.21224	-0.05055	-0.00097	0.00000
0.7	0.00000	-0.00485	-0.01750	-0.03104	-0.02592	0.03735	0.20988	0.50309	-0.49691	-0.20622	-0.04316	0.00000
0.8	0.00000	-0.00162	-0.00838	-0.02140	-0.03511	-0.02854	0.04197	0.23287	0.55628	-0.44372	-0.12813	0.00000
0.9	0.00000	-0.00030	-0.00383	-0.01308	-0.03028	-0.04216	-0.01754	0.10134	0.37357	0.76757	-0.23243	0.00000
1.0	0.00000	-0.00011	-0.00306	-0.01236	-0.02860	-0.04266	-0.02530	0.07953	0.33551	0.73153	1.00000	0.00000

ϵ_{yp}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00583	0.00221	0.00024	-0.00036	-0.00233	-0.00216	-0.00004	0.00001	0.00002	0.00001	0.00000
0.1	0.00224	0.00188	0.00105	0.00033	-0.00001	-0.00009	-0.00005	-0.00003	-0.00001	0.00001	0.00001
0.2	0.00024	0.00105	0.00152	0.00106	0.00043	0.00007	-0.00006	-0.00006	-0.00003	-0.00001	0.00002
0.3	-0.00036	0.00033	0.00106	0.00151	0.00105	0.00042	0.00006	-0.00005	-0.00006	-0.00003	0.00001
0.4	-0.00033	-0.00001	0.00043	0.00105	0.00148	0.00103	0.00042	0.00006	-0.00006	-0.00006	-0.00004
0.5	-0.00016	-0.00009	0.00007	0.00042	0.00103	0.00146	0.00103	0.00042	0.00007	-0.00009	-0.00016
0.6	-0.00004	-0.00006	-0.00006	0.00006	0.00042	0.00103	0.00148	0.00105	0.00043	-0.00001	-0.00033
0.7	0.00001	-0.00003	-0.00006	-0.00006	0.00006	0.00042	0.00105	0.00151	0.00106	0.00033	-0.00036
0.8	0.00002	-0.00001	-0.00003	-0.00006	-0.00006	0.00007	0.00043	0.00106	0.00152	0.00105	0.00024
0.9	0.00001	0.00001	-0.00001	-0.00003	-0.00006	-0.00009	-0.00001	0.00033	0.00105	0.00188	0.00221
1.0	0.00000	0.00001	0.00002	0.00001	-0.00004	-0.00016	-0.00033	-0.00036	0.00024	0.00221	0.00583

ϵ_{MP}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	-0.04570	-0.03472	-0.01510	-0.00391	0.00151	0.00185	0.00105	0.00025	0.00005	0.00000
0.1	0.00000	0.02554	-0.00506	-0.01014	-0.00545	-0.00248	-0.00023	0.00048	0.00033	0.00011	0.00000
0.2	0.00000	0.00621	0.03723	0.00214	-0.00750	-0.00622	-0.00286	-0.00068	0.00011	0.00012	0.00000
0.3	0.00000	-0.00158	0.00492	0.03645	0.00322	-0.00745	-0.00615	-0.00297	-0.00075	-0.00024	0.00000
0.4	0.00000	-0.00273	-0.00540	0.00269	0.00369	0.00199	-0.00727	-0.00598	-0.00271	-0.00061	0.00000
0.5	0.00000	-0.00169	-0.00532	-0.00596	0.00012	0.00562	0.00212	-0.00596	-0.00532	-0.00169	0.00000
0.6	0.00000	-0.00061	-0.00271	-0.00599	-0.00007	0.00139	0.00369	0.00157	-0.00540	-0.00171	0.00000
0.7	0.00000	-0.00004	-0.00076	-0.00287	-0.00005	-0.00745	0.00272	0.00345	0.00412	-0.00158	0.00000
0.8	0.00000	0.00012	0.00011	-0.00003	-0.00004	-0.00562	-0.00750	0.00214	0.00723	0.00021	0.00000
0.9	0.00000	0.00011	0.00033	0.00042	-0.00023	-0.00240	-0.00045	-0.00014	-0.00506	0.00554	0.00000
1.0	0.00000	0.00005	0.00035	0.00105	0.00196	0.00151	-0.00091	-0.00150	-0.03472	-0.04570	0.00000

ϵ_{QP}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000										
0.1	-1.00000	-0.05990	0.20109	0.16752	0.07765	0.01767	-0.00570	-0.00859	-0.00493	-0.00142	0.00000
0.2	0.00000	0.49821	-0.50179	-0.14443	0.01404	0.04628	0.03168	0.01258	0.00158	-0.00209	-0.00192
0.3	0.00000	0.15648	0.47979	-0.52021	-0.19699	-0.02133	0.03235	0.02967	0.01416	0.00284	-0.00151
0.4	0.00000	-0.00399	0.16335	0.48601	-0.51399	-0.19395	-0.02058	0.03203	0.02893	0.01325	0.00233
0.5	0.00000	-0.04162	0.00575	0.18099	0.49700	-0.50300	-0.18990	-0.02006	0.03175	0.02891	0.01303
0.6	0.00000	-0.03065	-0.03599	0.01747	0.18843	0.50000	-0.50000	-0.18843	-0.01747	0.03599	0.03065
0.7	0.00000	-0.01303	-0.02891	-0.03175	0.02006	0.18990	0.50300	-0.49700	-0.18099	-0.00574	0.04162
0.8	0.00000	-0.00233	-0.01325	-0.02893	-0.03203	0.02058	0.19395	0.51399	-0.48601	-0.16334	0.00799
0.9	0.00000	0.00151	-0.00284	-0.01416	-0.02133	-0.03235	0.02133	0.19699	0.52021	-0.47980	-0.15649
1.0	0.00000	0.00192	0.00209	-0.00158	-0.01258	-0.03168	-0.04628	-0.01404	0.14443	0.50179	-0.49821
1.0	0.00000	0.00142	0.00493	0.00859	0.00570	-0.01767	-0.07765	-0.16752	-0.20109	0.05990	1.00000
1.0											0.00000

ϵ_{ym}

$a/l \backslash X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00041	0.00122	-0.00410	-0.00342	-0.00159	-0.00035	0.00012	0.00018	0.00011	0.00003	-0.00005
0.1	0.01428	0.00294	-0.00374	-0.00357	-0.00179	-0.00048	0.00028	0.00018	0.00012	0.00003	-0.00005
0.2	0.00581	0.00439	0.00004	-0.00352	-0.00369	-0.00117	-0.00022	0.00012	0.00015	0.00009	-0.00001
0.3	0.00090	0.00261	0.00341	0.00078	-0.00334	-0.00248	-0.00109	-0.00021	0.00011	0.00016	0.00012
0.4	-0.00075	0.00090	0.00258	0.00329	0.00127	-0.00125	-0.00250	-0.00111	-0.00022	0.00019	0.00042
0.5	-0.00079	0.00004	0.00112	0.00256	0.00331	0.00000	-0.00331	-0.00256	-0.00112	-0.00004	0.00079
0.6	-0.00042	-0.00019	0.00022	0.00111	0.00250	0.00325	-0.00007	-0.00339	-0.00258	-0.00090	0.00075
0.7	-0.00012	-0.00016	-0.00011	0.00021	0.00109	0.00248	0.00324	-0.00028	-0.00341	-0.00261	-0.00090
0.8	0.00001	-0.00008	-0.00015	-0.00012	0.00022	0.00117	0.00268	0.00352	-0.00024	-0.00439	-0.00582
0.9	0.00005	-0.00003	-0.00012	-0.00019	-0.00008	0.00048	0.00179	0.00357	0.00374	-0.00294	-0.01428
1.0	0.00005	-0.00003	-0.00011	-0.00019	-0.00012	0.00035	0.00159	0.00342	0.00410	-0.00122	-0.00041

ϵ_{0m}

$a/l \backslash X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	4.47872	3.40205	1.47568	0.28431	-0.14034	-0.18196	-0.09911	-0.02662	0.00569	0.00000
0.1	0.00000	4.20383	3.58750	1.60034	2.39757	-0.11415	-0.18300	-0.10009	-0.03343	0.00320	0.00000
0.2	0.00000	2.48315	3.77178	2.64592	1.00236	0.16793	-0.13819	-0.14426	-0.07169	-0.01573	0.00000
0.3	0.00000	0.84962	2.37483	3.40010	2.45213	1.00406	0.15693	-0.12994	-0.13779	-0.05752	0.00000
0.4	0.00000	0.03311	0.87423	2.38595	3.40208	2.45026	0.99658	0.14013	-0.15472	-0.14021	0.00000
0.5	0.00000	-0.18431	0.07918	0.95609	2.43777	3.40939	2.43777	0.95609	0.07918	-0.18431	0.00000
0.6	0.00000	-0.14821	-0.15472	0.14213	2.99658	2.45026	3.40208	2.38595	0.87422	0.03311	0.00000
0.7	0.00000	-0.06752	-0.13779	-0.12994	0.15692	1.00406	2.45213	3.40010	2.37482	0.84962	0.00000
0.8	0.00000	-0.01573	-0.07169	-0.14426	-0.13819	0.16793	1.00036	2.54692	3.77178	2.48314	0.00000
0.9	0.00000	0.00320	-0.03343	-0.10009	-0.11415	0.39767	1.60034	3.58750	4.20383	2.20380	0.00000
1.0	0.00000	0.00569	-0.02662	-0.09911	-0.18196	-0.14034	0.28431	1.47968	3.40205	4.47872	0.00000

ϵ_{mm}

$a/l \backslash X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	
0.0	0.00000	-1.00000	-0.69972	-0.28493	-0.04390	0.03688	0.03081	0.02040	0.00611	0.00012	-0.00058	0.00000
0.1	0.00000	0.25520	-0.74480	-0.32903	-0.06629	0.03073	0.02296	0.00754	0.00069	0.00010	0.00000	0.00000
0.2	0.00000	0.12967	0.45941	-0.54059	-0.20590	-0.02312	0.03317	0.03009	0.01540	0.00451	0.00043	0.00000
0.3	0.00000	0.03557	0.19339	0.49906	-0.50094	-0.19147	-0.02192	0.03048	0.02834	0.01367	0.00324	0.00000
0.4	0.00000	-0.00496	0.03363	0.19321	0.49953	-0.50047	-0.19096	-0.02185	0.02936	0.02507	0.00831	0.00000
0.5	0.00000	-0.01254	-0.02211	0.02306	0.19032	0.50000	-0.50000	-0.19032	-0.02386	0.02211	0.01254	0.00000
0.6	0.00000	-0.00831	-0.02507	-0.02936	0.02185	0.19096	0.50047	-0.49953	-0.19321	-0.03363	0.00496	0.00000
0.7	0.00000	-0.00324	-0.01367	-0.02834	-0.03048	0.02192	0.19147	0.50094	-0.49906	-0.19338	-0.03557	0.00000
0.8	0.00000	-0.00043	-0.00451	-0.01540	-0.03009	-0.03317	0.02312	0.20589	0.54059	-0.45941	-0.12967	0.00000
0.9	0.00000	0.00048	-0.00069	-0.00754	-0.02296	-0.03073	-0.03073	0.06629	0.32903	0.74480	-0.25520	0.00000
1.0	0.00000	0.00058	-0.00012	-0.00611	-0.02040	-0.03081	-0.03688	0.04390	0.28493	0.69972	1.00000	0.00000

L1 = 7,5

E_{yp}

$a/l \backslash X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00474	0.00164	0.00007	-0.00031	-0.00023	-0.00009	-0.00001	0.00001	0.00001	0.00000	-0.00000
0.1	0.00164	0.00147	0.00000	0.00022	-0.00002	-0.00007	-0.00004	-0.00001	0.00000	0.00000	0.00000
0.2	0.00007	0.00000	0.00124	0.00003	0.00003	0.00002	-0.00005	-0.00004	-0.00002	0.00000	0.00001
0.3	-0.00031	0.00000	0.00003	0.00122	0.00001	0.00029	0.00002	-0.00005	-0.00004	-0.00001	0.00001
0.4	-0.00023	-0.00002	0.00029	0.00001	0.00119	0.00079	0.00028	0.00002	-0.00005	-0.00001	-0.00001
0.5	-0.00009	-0.00007	0.00002	0.00029	0.00079	0.00119	0.00079	0.00029	0.00002	-0.00007	-0.00009
0.6	-0.00001	-0.00004	-0.00005	0.00002	0.00028	0.00079	0.00119	0.00029	0.00002	-0.00002	-0.00023
0.7	0.00001	-0.00001	-0.00004	-0.00005	0.00002	0.00029	0.00079	0.00119	0.00029	0.00003	-0.00031
0.8	0.00001	0.00000	-0.00002	-0.00004	-0.00005	0.00002	0.00029	0.00079	0.00124	0.00000	0.00007
0.9	0.00000	0.00000	0.00000	-0.00001	-0.00004	-0.00007	-0.00002	0.00022	0.00002	0.00147	0.00164
1.0	-0.00000	0.00000	0.00001	0.00001	-0.00001	-0.00009	-0.00023	-0.00031	0.00007	0.00164	0.00474

E_{MP}

$a/l \backslash X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	-0.04293	-0.02958	-0.01093	-0.00094	0.00179	0.00145	0.00061	0.00012	-0.00001	0.00000
0.1	0.00000	0.02539	-0.00453	-0.00079	-0.00507	-0.00154	0.00007	0.00038	0.00024	0.00007	0.00000
0.2	0.00000	0.00505	0.03474	0.00001	-0.00719	-0.00515	-0.00195	-0.00022	0.00023	0.00013	0.00000
0.3	0.00000	-0.00217	0.02595	0.03377	0.00162	-0.00710	-0.00504	-0.00193	-0.00029	0.00007	0.00000
0.4	0.00000	-0.00263	-0.00571	0.00109	0.03328	0.00069	-0.00694	-0.00495	-0.00151	-0.00033	0.00000
0.5	0.00000	-0.00133	-0.00451	-0.00679	0.00077	0.03329	0.00077	-0.00679	-0.00461	-0.00133	0.00000
0.6	0.00000	-0.00033	-0.00191	-0.00495	-0.00694	0.00069	0.03328	0.00109	-0.00571	-0.00263	0.00000
0.7	0.00000	0.00007	-0.00029	-0.00193	-0.00504	-0.00710	0.00062	0.03377	0.00295	-0.00217	0.00000
0.8	0.00000	0.00013	0.00023	-0.00222	-0.00195	-0.00515	-0.00719	0.00081	0.03474	0.00505	0.00000
0.9	0.00000	0.00007	0.00024	0.00038	0.00027	-0.00154	-0.00507	-0.00079	-0.00453	0.02539	0.00000
1.0	0.00000	-0.00001	0.00012	0.00061	0.00145	0.00179	-0.00094	-0.00001	-0.00012	-0.04293	0.00000

E_{QP}

$a/l \backslash X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000										
0.1	-1.00000	-0.02365	0.20679	0.14821	0.05630	0.00584	-0.00049	-0.00706	-0.00277	-0.00019	0.00000
0.2	0.00000	0.49972									
0.3	0.00000	-0.50028	-0.13444	0.01870	0.04293	0.02550	0.00002	-0.00020	-0.00199	-0.00129	0.00000
0.4	0.00000	0.13933	0.47862								
0.5	0.00000	-0.52137	-0.18011	-0.00014	0.03455	0.02562	0.00974	0.00060	-0.00189	0.00000	
0.6	0.00000	-0.91519	0.14948	0.48904							
0.7	0.00000	-0.04159	-0.00347	-0.51096	-0.17514	-0.00705	0.03409	0.02471	0.00069	-0.00000	0.00000
0.8	0.00000	-0.00159	-0.00347	0.16686	0.49845						
0.9	0.00000	-0.02536	-0.03570	0.00614	0.17214	0.50000					
1.0	0.00000	-0.00823	-0.02402	-0.03323	0.00734	0.17251	0.50155				
0.1	0.00000	0.00000	-0.00869	-0.02471	-0.03409	0.00705	0.17515	0.51096			
0.2	0.00000	0.00189	-0.00061	-0.00974	-0.02562	-0.03455	0.00015	0.18011	0.52138		
0.3	0.00000	0.00129	0.00199	0.00020	-0.00002	-0.02550	-0.04292	-0.01870	0.13444	0.50028	
0.4	0.00000	0.00019	0.00277	0.00706	0.00049	-0.00584	-0.05630	-0.14821	-0.20679	0.02365	1.00000
0.5	0.00000	0.00019	0.00277	0.00706	0.00049	-0.00584	-0.05630	-0.14821	-0.20679	0.02365	0.00000

L.l = 7.5

ϵ_{ym}

X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.01778	0.00042	0.00358	-0.00264	-0.00104	-0.00312	0.00715	0.00013	0.00206	0.00014	0.00074
0.1	0.01187	0.00212	-0.00340	-0.00283	-0.00119	-0.00209	0.00213	0.00014	0.00207	0.00001	-0.00004
0.2	0.00424	0.00350	0.00200	-0.00302	-0.00209	-0.00277	-0.00006	0.00213	0.00011	0.00004	-0.00003
0.3	0.00028	0.00201	0.00299	0.00008	-0.00384	-0.00198	-0.00073	-0.00025	0.00012	0.00010	0.00003
0.4	-0.00075	0.00059	0.00206	0.00295	0.00004	-0.00305	-0.00199	-0.00074	-0.00007	0.00015	0.00024
0.5	-0.00058	-0.00004	0.00076	0.00203	0.00059	0.00220	-0.00289	-0.00203	-0.00076	0.00004	0.00058
0.6	-0.00024	-0.00016	0.00007	0.00074	0.00199	0.00225	-0.00204	-0.00295	-0.00206	-0.00059	0.00075
0.7	-0.00023	-0.00010	0.00012	0.00006	0.00077	0.00156	0.00284	-0.00200	-0.00299	-0.00001	-0.00028
0.8	0.00003	-0.00004	0.00011	-0.00013	0.00010	0.00017	0.00209	0.00302	-0.00000	-0.00000	-0.00024
0.9	0.00004	-0.00001	-0.00007	-0.00014	-0.00013	0.00019	0.00119	0.00283	0.00340	-0.00012	-0.01187
1.0	0.00004	-0.00000	-0.00006	-0.00013	-0.00015	0.00010	0.00100	0.00254	0.00360	-0.00012	-0.01778

ϵ_{QM}

X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	4.02975	3.33854	1.23202	0.10521	-0.00173	-0.10238	-0.06558	-0.00641	-0.01115	0.00000
0.1	0.00000	4.52546	3.59015	1.47737	0.21024	-0.11879	-0.17171	-0.07700	-0.01191	0.01016	0.00000
0.2	0.00000	2.52053	3.96115	2.64569	0.94474	0.00050	-0.16683	-0.12722	-0.04670	-0.00101	0.00000
0.3	0.00000	0.73256	2.40528	3.71002	0.50303	0.00054	0.00368	-0.15609	-0.11965	-0.04323	0.00000
0.4	0.00000	-0.05624	2.77893	2.45216	3.73313	0.00000	0.00000	-0.06321	-0.17203	-0.12750	0.00000
0.5	0.00000	-0.20227	2.00205	0.85527	2.49022	0.00000	0.00000	0.06527	0.00205	-0.00227	0.00000
0.6	0.00000	-0.12750	-0.11965	0.05301	2.00000	0.00000	0.00000	0.00000	0.00000	-0.00000	0.00000
0.7	0.00000	-0.04323	-0.11965	-0.15609	0.16683	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.8	0.00000	-0.00101	-0.04670	-0.12722	-0.07700	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.9	0.00000	0.01016	-0.01191	-0.07700	-0.17171	-0.11879	0.00000	0.00000	0.00000	0.00000	0.00000
1.0	0.00000	0.01115	-0.00641	-0.06558	-0.10238	-0.00173	0.00000	0.00000	0.00000	4.02975	0.00000

ϵ_{MM}

X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000										
0.1	-1.00000	-0.66761	-0.23835	-0.01581	0.04224	0.03270	0.01318	0.00192	-0.00129	-0.00076	0.00000
0.2	0.00000	0.27715	-0.28829	-0.03800	0.03804	0.03475	0.01553	0.00309	-0.00097	-0.00074	0.00000
0.3	0.00000	0.12917	0.47159	-0.52841	-0.18272	-0.00842	0.03491	0.02600	0.01029	0.00174	-0.00029
0.4	0.00000	0.02745	0.17895	0.49908	-0.50012	-0.17427	-0.00090	0.03269	0.02456	0.00982	0.00180
0.5	0.00000	-0.00985	0.01847	0.17497	0.49919	-0.50081	-0.17378	-0.00844	0.03240	0.02291	0.00676
0.6	0.00000	-0.01294	-0.02716	0.00948	0.17283	0.50000	-0.50000	-0.17282	-0.00948	0.02716	0.01294
0.7	0.00000	-0.00676	-0.02291	-0.03240	0.00844	0.17378	0.50081	-0.49919	-0.17498	-0.01847	0.00985
0.8	0.00000	-0.00180	-0.00982	-0.02456	-0.03269	0.00890	0.17427	0.50012	-0.49988	-0.17893	-0.02745
0.9	0.00000	0.00029	-0.00174	-0.01029	-0.02600	-0.03491	0.00842	0.18272	0.52841	-0.47159	-0.12918
1.0	0.00000	0.00076	0.00129	-0.00192	-0.01318	-0.03270	-0.04224	0.01581	0.23835	0.66761	1.00000

ϵ_{yp}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.23391	0.20122	-0.20022	-0.20022	-0.20022	-0.20022	0.20022	0.20022	0.20022	0.20022	-0.20022
0.1	0.22122	0.22117	0.22262	0.22215	-0.22222	-0.22222	-0.22222	-0.22222	0.22222	0.22222	0.22222
0.2	-0.22222	0.22222	0.22222	0.22222	0.22222	-0.22222	-0.22222	-0.22222	-0.22222	0.22222	0.22222
0.3	-2.22225	0.22225	0.22225	0.22225	0.22225	0.22225	-0.22225	-0.22225	-0.22225	-0.22225	0.22225
0.4	-0.22216	-0.22223	0.22222	0.22222	0.22222	0.22222	0.22222	-0.22222	-0.22222	-0.22222	0.22222
0.5	-0.22225	-0.22225	-0.22222	0.22222	0.22222	0.22222	0.22222	0.22222	-0.22222	-0.22222	-0.22222
0.6	0.22222	-0.22222	-0.22222	-0.22222	0.22222	0.22222	0.22222	0.22222	0.22222	-0.22222	-0.22222
0.7	0.22222	-0.22222	-0.22222	-0.22222	-0.22222	0.22222	0.22222	0.22222	0.22222	0.22222	-0.22222
0.8	0.22222	0.22222	-0.22222	-0.22222	-0.22222	-0.22222	0.22222	0.22222	0.22222	0.22222	-0.22222
0.9	0.22222	0.22222	0.22222	-0.22222	-0.22222	-0.22222	-0.22222	0.22222	0.22222	0.22222	0.22222
1.0	-0.22222	0.22222	0.22222	0.22222	0.22222	-0.22222	-0.22222	-0.22222	-0.22222	0.22222	0.22222

ϵ_{MP}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.20200	-0.24029	-0.22523	-0.20766	0.20030	0.20173	0.20102	0.20029	-0.20021	-0.20003	0.20000
0.1	0.20000	0.22513	-0.20410	-0.20759	-0.20237	-0.20093	0.20022	0.20032	0.20015	0.20023	0.20020
0.2	0.20000	0.20395	-0.20260	-0.20030	-0.20577	-0.20018	-0.20125	0.20006	0.20026	0.20010	0.20000
0.3	0.20000	-0.20250	0.20134	0.20148	-0.20247	-0.20555	-0.20406	-0.20122	-0.20000	0.20015	0.20000
0.4	0.20000	-0.20243	-0.20574	-0.20214	0.20119	-0.20235	-0.20551	-0.20471	-0.20126	-0.20013	0.20000
0.5	0.20000	-0.20099	-0.20387	-0.20545	-0.20029	0.20123	-0.20029	-0.20545	-0.20387	-0.20099	0.20000
0.6	0.20000	-0.20013	-0.20126	-0.20401	-0.20551	-0.20035	0.20119	-0.20014	-0.20574	-0.20043	0.20000
0.7	0.20000	0.20012	-0.20020	-0.20122	-0.20425	-0.20565	-0.20047	0.20143	0.20134	-0.20060	0.20000
0.8	0.20000	0.20010	0.20025	0.20025	-0.20125	-0.20419	-0.20577	-0.20030	0.20020	0.20035	0.20000
0.9	0.20000	0.20022	0.20016	0.20032	0.20022	-0.20093	-0.20237	-0.20069	-0.20018	0.20013	0.20000
1.0	0.20000	-0.20003	-0.20001	0.20029	0.20102	0.20173	0.20037	-0.20065	-0.20023	-0.24029	0.20000

ϵ_{QP}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	
0.0	0.00000	-1.00000	0.00928	0.20771	0.12817	0.03830	-0.00190	-0.00891	-0.00511	-0.00124	0.00035	0.00000
0.1	0.00000	0.49936	-0.50004	-0.12495	0.02273	0.03946	0.02011	0.00462	-0.00117	-0.00166	-0.00075	0.00000
0.2	0.00000	0.12302	0.47843	-0.52157	-0.16326	0.00310	0.03490	0.02119	0.00609	-0.00071	-0.00175	0.00000
0.3	0.00000	-0.02392	0.13665	0.49180	-0.50820	-0.15762	0.00394	0.03422	0.02032	0.00518	-0.00127	0.00000
0.4	0.00000	-0.03981	-0.01104	0.15276	0.49931	-0.50869	-0.15616	0.00328	0.03328	0.01939	0.00452	0.00000
0.5	0.00000	-0.02010	-0.03451	-0.00369	0.15625	0.50000	-0.50000	-0.15625	0.00369	0.03451	0.02010	0.00000
0.6	0.00000	-0.00452	-0.01939	-0.03328	-0.00328	0.15616	0.50069	-0.49931	-0.15276	0.01104	0.03981	0.00000
0.7	0.00000	0.00127	-0.00518	-0.02032	-0.03422	-0.00394	0.15762	0.50820	-0.49180	-0.13665	0.02392	0.00000
0.8	0.00000	0.00175	0.00071	-0.00609	-0.02119	-0.03490	-0.00310	0.16326	0.52157	-0.47843	-0.12302	0.00000
0.9	0.00000	0.00075	0.00166	0.00117	-0.00462	-0.02011	-0.03946	-0.02273	0.12495	-0.50004	-0.49936	0.00000
1.0	0.00000	-0.00035	0.00124	0.00511	0.00891	0.00190	-0.03830	-0.12817	-0.20771	-0.00928	1.00000	0.00000

E_{ym}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	2.21563	-0.20014	-0.20325	-2.20220	-0.20250	2.20283	0.20014	0.20000	0.20272	-0.20001	-0.20002
0.1	0.20393	0.20153	-0.20305	-0.20222	-2.20277	-2.20204	0.20013	2.20003	0.20223	-0.20000	-0.20272
0.2	2.20326	0.20320	0.20200	-0.20251	-2.20154	-2.20250	0.20202	0.20012	0.20227	0.20001	-0.20223
0.3	-0.20222	0.20157	0.20253	0.20227	-2.20250	-2.20159	-0.20249	0.20202	0.20211	0.20225	-0.20001
0.4	-0.20257	0.20239	0.20154	2.20255	2.20273	-2.20152	-0.20155	-2.20249	0.20202	0.20213	0.20012
0.5	-0.20242	-0.20209	0.20250	2.20150	2.20253	0.20271	-0.20252	-0.20160	-0.20202	0.20270	0.20140
0.6	-0.20212	-0.20213	-0.20202	0.20210	2.20159	2.20172	-0.20220	-0.20250	-0.20154	-0.20205	0.20207
0.7	0.20201	-0.20205	-0.20211	-0.20202	0.20243	0.20152	2.20250	-0.20207	-0.20252	-0.20157	0.20205
0.8	0.20203	-0.20201	-0.20207	-0.20212	-2.20272	2.20250	0.20154	0.20251	0.20200	-0.20202	-0.20205
0.9	0.20202	0.20202	-0.20203	-0.20209	-2.20213	0.20204	2.20277	0.20222	2.20276	-0.20153	-0.20201
1.0	0.20202	0.20201	-0.20202	-0.20203	-0.20214	-0.20273	0.20250	0.20202	0.20225	0.20214	-0.20153

E_{QM}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.20200	5.15725	3.22895	0.98039	-0.20215	-0.22185	-0.12099	-0.03639	0.20212	0.21299	0.20200
0.1	0.20200	4.83293	3.57491	1.26223	0.25534	-0.21192	-0.14632	-0.24784	0.20138	0.21121	0.20200
0.2	0.20200	2.53362	4.15325	2.63922	0.21352	-0.22250	-0.17853	-0.12540	-0.22671	0.20570	0.20200
0.3	0.20200	0.61297	2.42095	3.96427	2.54173	2.79090	-0.21755	-0.16928	-0.20540	-0.22227	0.20200
0.4	0.20200	-0.12901	0.68222	2.49953	3.95442	2.54634	2.78579	-0.22433	-0.17723	-0.12224	0.20200
0.5	0.20200	-0.22422	-0.25317	0.76529	2.22949	4.22375	2.53949	0.76529	-0.26317	-0.22422	0.20200
0.6	0.20200	-0.12224	-0.17723	-0.22423	2.78570	2.54634	3.95442	2.49953	2.58222	-0.12301	0.20200
0.7	0.20200	-0.22227	-0.20540	-0.16928	-0.21735	0.77092	2.54173	2.96427	2.42095	0.61097	0.20200
0.8	0.20200	0.22670	-0.22671	-0.12540	-0.17853	-0.22250	0.21352	2.63922	4.15325	2.53362	0.20200
0.9	0.20200	0.21121	0.22130	-0.24784	-0.14632	-0.21192	0.26334	1.26523	2.57421	4.03053	0.20200
1.0	0.20200	0.21099	0.20512	-0.22623	-0.12099	-0.22185	-0.03639	0.20200	2.20276	5.15725	0.20200

E_{MM}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	
0.0	0.00000	-1.00000	-0.63538	-0.19591	0.00562	0.04306	0.22582	0.00746	-0.00049	-0.00165	-0.00065	0.00000
0.1	0.00000	0.29015	-0.70185	-0.25130	-0.01564	0.04094	0.22877	0.00974	0.00034	-0.00156	-0.00070	0.00000
0.2	0.00000	0.12682	0.48081	-0.51919	-0.16255	0.00304	0.03469	0.02109	0.00627	-0.00001	-0.00064	0.00000
0.3	0.00000	0.01921	0.16365	0.49998	-0.50002	-0.15799	0.00200	0.03311	0.02036	0.00638	0.00066	0.00000
0.4	0.00000	-0.01358	0.00539	0.15774	0.49910	-0.50090	-0.15731	0.00261	0.03318	0.01970	0.00503	0.00000
0.5	0.00000	-0.01239	-0.02968	-0.00216	0.15639	0.50000	-0.50000	-0.15639	0.00216	0.02968	0.01239	0.00000
0.6	0.00000	-0.00503	-0.01970	-0.03318	-0.00261	0.15731	0.50090	-0.49910	-0.15774	-0.00539	0.01358	0.00000
0.7	0.00000	-0.00066	-0.00638	-0.02036	-0.03311	-0.00200	0.15799	0.50002	-0.49998	-0.16365	-0.01921	0.00000
0.8	0.00000	0.00064	0.00001	-0.00527	-0.02109	-0.03469	-0.00304	0.16255	0.51919	-0.48081	-0.12682	0.00000
0.9	0.00000	0.00070	0.00156	-0.00034	-0.00974	-0.02877	-0.04094	0.01564	0.25130	0.70185	-0.29015	0.00000
1.0	0.00000	0.00065	0.00165	0.00049	-0.00746	-0.02582	-0.04306	-0.00562	0.19591	0.63538	1.00000	0.00000

ϵ_{yp}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.1	0.00092	0.00094	0.00049	0.00010	-0.00003	-0.00004	-0.00001	-0.00002	0.00000	0.00000	0.00000
0.2	-0.00008	0.00049	0.00085	0.00051	0.00013	-0.00002	-0.00003	-0.00002	-0.00002	0.00000	0.00000
0.3	-0.00021	0.00010	0.00051	0.00083	0.00052	0.00013	-0.00002	-0.00003	-0.00002	-0.00000	0.00001
0.4	-0.00011	-0.00003	0.00013	0.00050	0.00032	0.00049	0.00013	-0.00002	-0.00003	-0.00001	0.00001
0.5	-0.00002	-0.00004	-0.00002	0.00013	0.00049	0.00001	0.00049	0.00013	-0.00002	-0.00004	-0.00002
0.6	0.00001	-0.00001	-0.00003	-0.00002	0.00013	0.00049	0.00002	0.00050	0.00013	-0.00003	-0.00001
0.7	0.00001	-0.00002	-0.00002	-0.00003	-0.00002	0.00013	0.00050	0.00003	0.00051	0.00010	-0.00001
0.8	0.00000	0.00000	-0.00000	-0.00002	-0.00003	-0.00002	0.00013	0.00051	0.00005	0.00049	-0.00000
0.9	0.00000	0.00000	0.00000	-0.00000	-0.00001	-0.00004	-0.00003	0.00010	0.00049	0.00004	0.00000
1.0	-0.00000	0.00000	0.00000	0.00001	0.00001	-0.00002	-0.00011	-0.00021	-0.00008	0.00002	0.00000

ϵ_{MP}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	-0.03778	-0.02131	-0.00512	0.00100	0.00150	0.00065	0.00010	-0.00005	-0.00003	0.00000
0.1	0.00000	0.02478	-0.00397	-0.00577	-0.00209	-0.00051	0.00000	0.00025	0.00009	0.00001	0.00000
0.2	0.00000	0.00293	0.00261	-0.00122	-0.00029	-0.00032	-0.00073	0.00019	0.00023	0.00007	0.00000
0.3	0.00000	-0.00287	0.00005	0.00051	-0.00131	-0.00013	-0.00021	-0.00070	0.00015	0.00017	0.00000
0.4	0.00000	-0.00215	-0.00515	-0.00108	0.00037	-0.00118	-0.00002	-0.00019	-0.00075	0.00000	0.00000
0.5	0.00000	-0.00059	-0.00315	-0.00500	-0.00114	0.00041	-0.00114	-0.00000	-0.00015	-0.00009	0.00000
0.6	0.00000	0.00000	-0.00075	-0.00019	-0.00002	-0.00118	0.00037	-0.00108	-0.00057	-0.00016	0.00000
0.7	0.00000	0.00013	0.00015	-0.00073	-0.00021	-0.00013	-0.00101	0.00051	0.00005	-0.00007	0.00000
0.8	0.00000	0.00007	0.00023	0.00019	-0.00073	-0.00032	-0.00000	-0.00102	0.00051	0.00023	0.00000
0.9	0.00000	0.00001	0.00029	0.00025	0.00000	-0.00051	-0.00000	-0.00077	-0.00097	0.02478	0.00000
1.0	0.00000	-0.00003	-0.00005	0.00010	0.00065	0.00150	0.00100	-0.00012	-0.00013	-0.03778	0.00000

ϵ_{QP}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	
0.0	0.00000	-1.00000	0.03905	0.20478	0.10836	0.02373	-0.00641	-0.00794	-0.00327	-0.00030	0.00049	0.00000
0.1	0.00000	0.00000	-0.50077	-0.11572	0.02620	0.03592	0.01548	0.00217	-0.00159	-0.00126	-0.00037	0.00000
0.2	0.00000	0.10772	0.47905	-0.52095	-0.14677	0.01237	0.03379	0.01679	0.00324	-0.00135	-0.00137	0.00000
0.3	0.00000	-0.03043	0.12459	0.49414	-0.50587	-0.14133	0.01270	0.03295	0.01608	0.00261	-0.00177	0.00000
0.4	0.00000	-0.03685	-0.01722	0.13879	0.49975	-0.50025	-0.14073	0.01197	0.03217	0.01517	0.00185	0.00000
0.5	0.00000	-0.01523	-0.03248	-0.01198	0.14093	0.50000	-0.14093	0.01198	0.03248	0.01523	0.00000	0.00000
0.6	0.00000	-0.00185	-0.01517	-0.03217	-0.01197	0.14073	0.50025	-0.14093	0.03248	0.01523	0.00000	0.00000
0.7	0.00000	0.00177	-0.00261	-0.01608	-0.03295	-0.01270	0.14133	0.50587	-0.13879	0.01722	0.03685	0.00000
0.8	0.00000	0.00137	0.00135	-0.00324	-0.01679	-0.03379	-0.01237	0.14677	0.52095	-0.47905	-0.10772	0.00000
0.9	0.00000	0.00037	0.00126	0.00159	-0.00217	-0.01548	-0.03592	-0.02620	0.11571	0.50076	-0.49524	0.00000
1.0	0.00000	-0.00049	0.00030	0.00327	0.00794	0.00641	-0.02373	-0.10836	-0.20478	-0.03902	1.00000	0.00000

ϵ_{ym}

a/l \ X/l	X/l										
	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.01384	-0.00054	-0.00283	-0.00150	-0.00033	0.00009	0.00011	0.00025	0.00021	-0.00001	-0.00001
0.1	0.00835	0.00110	-0.00272	-0.00174	-0.00048	0.00004	0.00011	0.00005	0.00001	-0.00001	-0.00001
0.2	0.00218	0.00254	0.00001	-0.00208	-0.00129	-0.00031	0.00005	0.00009	0.00004	0.00000	-0.00000
0.3	-0.00029	0.00123	0.00232	0.00006	-0.00021	-0.00105	-0.00032	0.00006	0.00009	0.00004	-0.00002
0.4	-0.00056	0.00023	0.00131	0.00205	0.00001	-0.00022	-0.00125	-0.00030	0.00006	0.00010	0.00005
0.5	-0.00026	-0.00009	0.00031	0.00127	0.00223	0.00000	-0.00022	-0.00127	-0.00031	0.00009	0.00025
0.6	-0.00005	-0.00010	-0.00005	0.00000	0.00125	0.00022	-0.00001	-0.00022	-0.00131	-0.00003	0.00005
0.7	0.00002	-0.00004	-0.00009	-0.00006	0.00000	0.00125	0.00021	-0.00005	-0.00022	-0.00124	0.00009
0.8	0.00002	-0.00000	-0.00004	-0.00009	-0.00005	0.00001	0.00129	0.00020	-0.00001	-0.00004	-0.00010
0.9	0.00001	0.00001	-0.00001	-0.00005	-0.00011	-0.00004	0.00009	0.00174	0.00022	-0.00110	-0.00003
1.0	0.00001	0.00001	-0.00001	-0.00005	-0.00011	-0.00009	0.00003	0.00150	0.00003	0.00004	-0.01384

ϵ_{QM}

a/l \ X/l	X/l										
	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	5.45885	3.27973	0.74025	-0.14501	-0.21705	-0.05592	-0.01416	0.01004	0.00925	0.00000
0.1	0.00000	5.11997	3.52272	1.05228	-0.05202	-0.02204	-0.11514	-0.02420	0.00013	0.00922	0.00000
0.2	0.00000	2.52548	4.35029	2.62743	0.68741	-0.03227	-0.17748	-0.06227	-0.01170	0.00597	0.00000
0.3	0.00000	0.48949	2.44529	4.21610	2.56255	0.67700	-0.05558	-0.17096	-0.07541	-0.00752	0.00000
0.4	0.00000	-0.19321	0.58474	2.53208	4.24023	0.55002	0.67232	-0.05020	-0.17204	-0.07578	0.00000
0.5	0.00000	-0.19358	-0.11683	0.65904	2.56206	4.25042	0.55002	0.65904	-0.11683	-0.19358	0.00000
0.6	0.00000	-0.07578	-0.17204	0.67232	2.56206	4.24023	0.55002	0.65904	-0.11683	-0.19358	0.00000
0.7	0.00000	-0.00752	-0.07541	-0.17096	-0.05558	0.67700	0.55002	4.21610	2.44529	0.48949	0.00000
0.8	0.00000	0.00922	-0.01170	-0.06227	-0.17748	-0.03227	0.68741	0.67232	4.35029	2.52548	0.00000
0.9	0.00000	0.00922	0.00913	-0.02420	-0.11514	-0.02204	-0.05592	1.05228	3.52272	5.11997	0.00000
1.0	0.00000	0.00925	0.01004	-0.01416	-0.05592	-0.21705	-0.14501	0.74025	3.27973	5.45885	0.00000

ϵ_{MM}

a/l \ X/l	X/l										
	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000										
0.1	-1.00000	-0.60319	-0.15762	0.02127	0.04079	0.01912	0.00334	-0.00160	-0.00145	-0.00043	0.00000
0.2	0.00000	0.31808									
0.3	0.00000	-0.68192	-0.21792	0.00163	0.04073	0.02267	0.00535	-0.00111	-0.00152	-0.00051	0.00000
0.4	0.00000	0.12284	0.48758								
0.5	0.00000	-0.51242	-0.14472	0.01195	0.03317	0.01651	0.00329	-0.00096	-0.00071	0.00000	
0.6	0.00000	0.01119	0.14808	0.49978							
0.7	0.00000	-0.50022	-0.14247	0.01098	0.03218	0.01618	0.00357	-0.00013	0.00000		
0.8	0.00000	0.01613	-0.00553	0.14159	0.49917						
0.9	0.00000	-0.50083	-0.14161	0.01157	0.03232	0.01604	0.00335	0.00000			
1.0	0.00000	-0.01115	-0.03018	-0.01142	0.14090	0.50000					
0.1	0.00000	-0.00335	-0.01604	-0.03232	-0.01157	0.14161	0.50063				
0.2	0.00000	-0.00991	-0.04991	-0.14159	-0.50083	-0.14161	0.01157	0.03232	0.01604	0.00335	0.00000
0.3	0.00000	-0.01613	-0.03018	-0.01142	0.14090	0.50000	-0.14090	0.01142	0.03018	0.01115	0.00000
0.4	0.00000	-0.00335	-0.01604	-0.03232	-0.01157	0.14161	0.50063	-0.49917	-0.14159	0.00553	0.01613
0.5	0.00000	-0.00991	-0.04991	-0.14159	-0.50083	-0.14161	0.01157	0.03232	0.01604	0.00335	0.00000
0.6	0.00000	-0.01613	-0.03018	-0.01142	0.14090	0.50000	-0.14090	0.01142	0.03018	0.01115	0.00000
0.7	0.00000	-0.00335	-0.01604	-0.03232	-0.01157	0.14161	0.50063	-0.49917	-0.14159	0.00553	0.01613
0.8	0.00000	-0.00991	-0.04991	-0.14159	-0.50083	-0.14161	0.01157	0.03232	0.01604	0.00335	0.00000
0.9	0.00000	-0.01613	-0.03018	-0.01142	0.14090	0.50000	-0.14090	0.01142	0.03018	0.01115	0.00000
1.0	0.00000	-0.00335	-0.01604	-0.03232	-0.01157	0.14161	0.50063	-0.49917	-0.14159	0.00553	0.01613

ϵ_{YP}

$a/l \backslash X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	
0.0	0.00274	0.00065	-0.00010	-0.00017	-0.00027	-0.00041	0.00001	0.00001	0.00000	0.00000	0.00000	0.00000
0.1	0.00059	0.00078	0.00039	0.00007	-0.00003	-0.00003	-0.00001	0.00000	0.00000	0.00000	0.00000	0.00000
0.2	-0.00010	0.00039	0.00071	0.00041	0.00009	-0.00002	-0.00003	-0.00001	0.00000	0.00000	0.00000	0.00000
0.3	-0.00017	0.00007	0.00041	0.00070	0.00039	0.00008	-0.00002	-0.00003	-0.00001	0.00000	0.00000	0.00000
0.4	-0.00007	-0.00003	0.00009	0.00039	0.00069	0.00039	0.00008	-0.00002	-0.00003	-0.00001	0.00000	0.00000
0.5	-0.00001	-0.00003	-0.00002	0.00009	0.00039	0.00069	0.00039	0.00008	-0.00002	-0.00003	-0.00001	0.00000
0.6	0.00001	-0.00001	-0.00003	-0.00002	0.00009	0.00039	0.00069	0.00039	0.00008	-0.00002	-0.00003	-0.00001
0.7	0.00001	0.00000	-0.00001	-0.00003	-0.00002	0.00009	0.00039	0.00069	0.00039	0.00008	-0.00002	-0.00003
0.8	0.00000	0.00000	0.00000	-0.00001	-0.00003	-0.00002	0.00009	0.00039	0.00069	0.00039	0.00008	-0.00002
0.9	0.00000	0.00000	0.00000	0.00000	-0.00001	-0.00003	-0.00002	0.00009	0.00039	0.00069	0.00039	0.00008
1.0	0.00000	0.00000	0.00000	0.00001	0.00001	-0.00001	-0.00007	-0.00017	-0.00010	0.00000	0.00000	0.00000

 ϵ_{MP}

$a/l \backslash X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	
0.0	0.00000	-0.03539	-0.01789	-0.00319	0.00134	0.00121	0.00239	-0.00000	-0.00005	-0.00002	0.00000	0.00000
0.1	0.00000	0.02435	-0.00385	-0.00598	-0.00239	-0.00022	0.00028	0.00018	0.00005	0.00000	0.00000	0.00000
0.2	0.00000	0.00199	0.02075	-0.00194	-0.00574	-0.00258	-0.00035	0.00025	0.00018	0.00005	0.00000	0.00000
0.3	0.00000	-0.00302	-0.00098	0.02700	-0.00195	-0.00258	-0.00252	-0.00034	0.00022	0.00012	0.00000	0.00000
0.4	0.00000	-0.00185	-0.00225	-0.00160	0.02775	-0.00184	-0.00251	-0.00240	-0.00033	0.00009	0.00000	0.00000
0.5	0.00000	-0.00044	-0.00249	-0.00550	-0.00182	0.00278	-0.00182	-0.00250	-0.00249	-0.00044	0.00000	0.00000
0.6	0.00000	0.00009	-0.00029	-0.00248	-0.00251	-0.00194	0.00275	-0.00180	-0.00255	-0.00185	0.00000	0.00000
0.7	0.00000	0.00012	0.00022	-0.00034	-0.00252	-0.00258	-0.00155	0.00275	-0.00238	-0.00302	0.00000	0.00000
0.8	0.00000	0.00005	0.00018	0.00025	-0.00032	-0.00258	-0.00254	-0.00194	0.00279	0.00199	0.00000	0.00000
0.9	0.00000	0.00000	0.00000	0.00013	0.00022	-0.00022	-0.00239	-0.00258	-0.00306	0.00435	0.00000	0.00000
1.0	0.00000	-0.00002	-0.00005	-0.00000	0.00000	0.00121	0.00134	-0.00319	-0.01789	-0.03539	0.00000	0.00000

 ϵ_{QP}

$a/l \backslash X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	
0.0	0.00000	-0.99999	0.06574	0.19853	0.08948	0.01241	-0.00852	-0.00636	-0.00179	0.00019	0.00041	0.00000
0.1	0.00000	0.49784	-0.50216	-0.10657	0.02914	0.03234	0.01153	0.00048	-0.00165	-0.00088	-0.00012	0.00000
0.2	0.00000	0.09352	0.40029	-0.51971	-0.13090	0.01975	0.03162	0.01271	0.00118	-0.00153	-0.00095	0.00000
0.3	0.00000	-0.03502	0.11313	0.49600	-0.50400	-0.12619	0.01954	0.03073	0.01220	0.00081	-0.00181	0.00000
0.4	0.00000	-0.03316	-0.02221	0.12509	0.49994	-0.50006	-0.12614	0.01890	0.03018	0.01145	0.00086	0.00000
0.5	0.00000	-0.01097	-0.02993	-0.01876	0.12531	0.50000	-0.12631	0.01876	0.02993	0.01097	0.00000	0.00000
0.6	0.00000	-0.00006	-0.01145	-0.03018	-0.01890	0.12615	0.50006	-0.12509	0.02221	0.03316	0.00000	0.00000
0.7	0.00000	0.00181	-0.00081	-0.01220	-0.03073	-0.01954	0.12619	0.50400	-0.11313	0.03502	0.00000	0.00000
0.8	0.00000	0.00095	0.00153	-0.00118	-0.01271	-0.03162	-0.01975	0.13089	0.51971	-0.40029	-0.09352	0.00000
0.9	0.00000	0.00012	0.00088	0.00165	-0.00048	-0.01153	-0.03234	-0.02914	0.10657	0.50216	-0.49784	0.00000
1.0	0.00000	-0.00041	-0.00019	0.00179	0.00636	0.00852	-0.01241	-0.08948	-0.19853	-0.06575	1.00000	0.00000

ϵ_{ym}

X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.01235	-0.00001	-0.00245	-0.00110	-0.00015	0.00011	0.00008	0.00002	-0.00000	-0.00000	-0.00000
0.1	0.00705	0.00079	-0.00241	-0.00135	-0.00028	0.00009	0.00009	0.00003	0.00000	-0.00001	-0.00000
0.2	0.00152	0.00217	0.00002	-0.00159	-0.00101	-0.00019	0.00009	0.00007	0.00002	-0.00000	-0.00001
0.3	-0.00240	0.00097	0.00205	0.00005	-0.00195	-0.00100	-0.00019	0.00008	0.00007	0.00002	-0.00002
0.4	-0.00045	0.00013	0.00103	0.00199	0.00001	-0.00197	-0.00100	-0.00018	0.00002	0.00007	0.00001
0.5	-0.00015	-0.00009	0.00018	0.00100	0.00157	0.00000	-0.00197	-0.00100	-0.00018	0.00009	0.00015
0.6	-0.00001	-0.00007	-0.00005	0.00018	0.00102	0.00197	-0.00001	-0.00199	-0.00102	-0.00013	0.00045
0.7	0.00002	-0.00002	-0.00007	-0.00008	0.00018	0.00100	0.00195	-0.00005	-0.00005	-0.00007	0.00040
0.8	0.00001	0.00000	-0.00002	-0.00007	-0.00009	0.00018	0.00101	0.00199	-0.00002	-0.00017	-0.00152
0.9	0.00000	0.00001	-0.00000	-0.00003	-0.00009	-0.00008	0.00008	0.00135	0.00241	-0.00079	-0.00705
1.0	0.00000	0.00000	0.00000	-0.00002	-0.00008	-0.00011	0.00015	0.00110	0.00245	0.00001	-0.01235

ϵ_{QM}

X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	5.73258	2.89757	0.51700	-0.21755	-0.19546	-0.05290	0.00061	0.01067	0.00501	0.00000
0.1	0.00000	5.23340	3.44668	0.83072	-0.13977	-0.21127	-0.29356	-0.00725	0.01030	0.00625	0.00000
0.2	0.00000	2.49329	4.56596	3.61040	0.56532	-0.14531	-0.16702	-0.05987	-0.00131	0.01015	0.00000
0.3	0.00000	0.37177	2.45379	4.47138	2.57513	0.56930	-0.14144	-0.15321	-0.05543	0.00000	0.00000
0.4	0.00000	-0.22522	0.40721	2.54935	4.50055	2.57396	0.55686	-0.14339	-0.16124	-0.05150	0.00000
0.5	0.00000	-0.17532	-0.15937	0.54957	2.57039	4.50147	2.57029	0.54957	-0.15937	-0.17532	0.00000
0.6	0.00000	-0.05150	-0.16124	-0.14339	0.55686	2.57396	4.50055	2.54935	0.40721	-0.22522	0.00000
0.7	0.00000	0.00000	-0.05543	-0.14531	-0.13977	0.56930	2.57513	4.47138	2.45379	0.37177	0.00000
0.8	0.00000	0.01067	-0.00131	-0.05987	-0.16702	-0.14531	0.56532	2.61040	4.56596	2.49929	0.00000
0.9	0.00000	0.00501	0.01015	-0.00000	-0.00000	-0.13977	0.00062	0.01067	3.44668	5.39339	0.00000
1.0	0.00000	0.00000	0.01067	0.00000	-0.05290	-0.19546	-0.21755	0.51700	2.89757	5.73258	0.00000

ϵ_{MM}

X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	
0.0	0.00000											
0.1	-1.00000	-0.57121	-0.12342	0.03204	0.03659	0.01320	0.00062	-0.00186	-0.00104	-0.00022	0.00000	
0.2	0.00000	0.33686										
0.3	0.00000	-0.66314	-0.18793	0.01462	0.03846	0.01702	0.00225	-0.00167	-0.00120	-0.00030	0.00000	
0.4	0.00000	0.11744	0.49238									
0.5	0.00000	-0.50762	-0.12874	0.01884	0.03079	0.01244	0.00121	-0.00134	-0.00053	0.00000		
0.6	0.00000	0.00368	0.13269	0.49949								
0.7	0.00000	-0.01755	-0.01432	0.12650	-0.50051	-0.12767	0.01818	0.03026	0.01231	0.00147	-0.00050	0.00000
0.8	0.00000	-0.01755	-0.01432	0.12650	0.49933							
0.9	0.00000	-0.00948	-0.02918	-0.01863	0.12627	0.50000						
1.0	0.00000	-0.00190	-0.01240	-0.03035	-0.01866	0.12674	0.50067					
0.1	0.00000	-0.00190	-0.01240	-0.03035	-0.01866	0.12674	0.50067					
0.2	0.00000	-0.00948	-0.02918	-0.01863	0.12627	0.50000	-0.12627	0.01863	0.02918	0.00948	0.00000	
0.3	0.00000	-0.00190	-0.01240	-0.03035	-0.01866	0.12674	0.50067	-0.49933	-0.12650	0.01432	0.01755	0.00000
0.4	0.00000	0.00060	-0.00147	-0.01231	-0.03026	-0.01818	0.12767	0.50051	-0.49949	-0.13269	-0.00368	0.00000
0.5	0.00000	0.00063	0.00134	-0.00121	-0.01244	-0.03079	-0.01884	0.12874	0.50762	-0.49238	-0.11744	0.00000
0.6	0.00000	0.00030	0.00120	0.00167	-0.00225	-0.01702	-0.03846	-0.01462	0.18793	0.66314	-0.33686	0.00000
0.7	0.00000	0.00000	0.00120	0.00167	-0.00225	-0.01702	-0.03846	-0.01462	0.18793	0.66314	-0.33686	0.00000
0.8	0.00000	0.00022	0.00104	0.00186	-0.00062	-0.01320	-0.03659	-0.03204	0.12342	0.57120	1.00000	0.00000
0.9	0.00000	0.00022	0.00104	0.00186	-0.00062	-0.01320	-0.03659	-0.03204	0.12342	0.57120	1.00000	0.00000

ϵ_{yp}

$a/l \backslash X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00233	0.00052	-0.00011	-0.00013	-0.00004	0.00000	0.00001	0.00000	0.00000	0.00000	0.00000
0.1	0.00052	0.00055	0.00031	0.00004	-0.00023	-0.00002	-0.00000	0.00000	0.00000	0.00000	0.00000
0.2	-0.00011	0.00031	0.00051	0.00033	0.00006	-0.00002	-0.00002	-0.00000	0.00000	0.00000	0.00000
0.3	-0.00013	0.00004	0.00033	0.00059	0.00032	0.00005	-0.00002	-0.00002	-0.00000	0.00000	0.00000
0.4	-0.00004	-0.00003	0.00006	0.00032	0.00058	0.00031	0.00005	-0.00002	-0.00002	-0.00000	0.00000
0.5	0.00000	-0.00002	-0.00002	0.00005	0.00031	0.00058	0.00031	0.00005	-0.00002	-0.00002	0.00000
0.6	0.00001	-0.00000	-0.00002	-0.00002	0.00005	0.00031	0.00058	0.00032	0.00005	-0.00003	-0.00004
0.7	0.00000	0.00000	-0.00000	-0.00002	-0.00002	0.00005	0.00032	0.00059	0.00033	0.00004	-0.00013
0.8	0.00000	0.00000	0.00000	-0.00000	-0.00002	-0.00002	0.00005	0.00033	0.00051	0.00031	-0.00011
0.9	0.00000	0.00000	0.00000	0.00000	-0.00000	-0.00002	-0.00003	0.00004	0.00031	0.00055	0.00052
1.0	0.00000	0.00000	0.00000	0.00000	0.00001	0.00000	-0.00004	-0.00013	-0.00011	0.00052	0.00233

ϵ_{MP}

$a/l \backslash X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	-0.03311	-0.01490	-0.00175	0.00144	0.00091	0.00019	-0.00025	-0.00005	-0.00001	0.00000
0.1	0.00000	0.02386	-0.00381	-0.00529	-0.00181	-0.00002	0.00026	0.00012	0.00002	-0.00000	0.00000
0.2	0.00000	0.00114	0.02714	-0.00251	-0.00519	-0.00196	-0.00011	0.00025	0.00013	0.00002	0.00000
0.3	0.00000	-0.00306	-0.00177	0.02629	-0.00246	-0.00504	-0.00190	-0.00010	0.00023	0.00009	0.00000
0.4	0.00000	-0.00155	-0.00485	-0.00235	0.02530	-0.00237	-0.00499	-0.00189	-0.00014	0.00012	0.00000
0.5	0.00000	-0.00024	-0.00192	-0.00499	-0.00235	0.00532	-0.00235	-0.00499	-0.00192	-0.00024	0.00000
0.6	0.00000	0.00019	-0.00014	-0.00189	-0.00499	-0.00237	0.02530	-0.00235	-0.00486	-0.00155	0.00000
0.7	0.00000	0.00009	0.00023	-0.00010	-0.00190	-0.00504	-0.00246	0.00529	-0.00177	-0.00306	0.00000
0.8	0.00000	0.00002	0.00012	0.00005	-0.00011	-0.00196	-0.00251	-0.00519	0.002714	0.00114	0.00000
0.9	0.00000	-0.00000	0.00002	0.00012	0.00026	-0.00002	-0.00181	-0.00529	-0.00381	0.02386	0.00000
1.0	0.00000	-0.00001	-0.00005	-0.00005	0.00019	0.00091	0.00144	-0.00175	-0.00490	-0.03311	0.00000

ϵ_{QP}

$a/l \backslash X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	
0.0	0.00000	-1.00000	0.08962	0.18989	0.07203	0.00401	-0.00897	-0.00464	-0.00074	0.00037	0.00028	0.00000
0.1	0.00000	0.49598	-0.50402	-0.09746	0.03153	0.02876	0.00822	-0.00060	-0.00149	-0.00055	0.00001	0.00000
0.2	0.00000	0.00045	0.48197	-0.51803	-0.11581	0.02538	0.02874	0.00913	-0.00019	-0.00144	-0.00057	0.00000
0.3	0.00000	-0.03799	0.10212	0.49741	-0.50259	-0.11209	0.02475	0.02790	0.00800	-0.00036	-0.00150	0.00000
0.4	0.00000	-0.02913	-0.02614	0.11181	0.50000	-0.50000	-0.11235	0.02425	0.02757	0.00825	-0.00102	0.00000
0.5	0.00000	-0.00742	-0.02704	-0.02409	0.11243	0.50000	-0.50000	-0.11243	0.02409	0.02704	0.00742	0.00000
0.6	0.00000	0.00102	-0.00825	-0.02757	-0.02425	0.11235	0.50000	-0.50000	-0.11181	0.02614	0.02913	0.00000
0.7	0.00000	0.00158	0.00036	-0.00800	-0.02790	-0.02475	0.11209	0.50259	-0.49741	-0.10213	0.03799	0.00000
0.8	0.00000	0.00057	0.00144	0.00019	-0.00913	-0.02874	-0.02538	0.11580	0.51803	-0.48197	-0.00045	0.00000
0.9	0.00000	-0.00001	0.00055	0.00149	0.00060	-0.00822	-0.02876	-0.03153	0.09746	-0.50402	-0.49598	0.00000
1.0	0.00000	-0.00028	-0.00037	0.00074	0.00464	0.00897	-0.00401	-0.07203	-0.18989	-0.08962	1.00000	0.00000

ϵ_{ym}

X/l a/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.01108	-0.00099	-0.00210	-0.00000	-0.00004	0.00010	0.00005	0.00001	-0.00000	-0.00000	0.00000
0.1	0.00598	0.00055	-0.00212	-0.00104	-0.00015	0.00009	0.00006	0.00001	-0.00000	-0.00000	0.00000
0.2	0.00103	0.00188	0.00003	-0.00175	-0.00079	-0.00009	0.00008	0.00005	0.00001	-0.00000	-0.00001
0.3	-0.00043	0.00075	0.00181	0.00003	-0.00174	-0.00079	-0.00009	0.00008	0.00005	0.00001	-0.00002
0.4	-0.00035	0.00005	0.00001	0.00176	0.00002	-0.00174	-0.00078	-0.00009	0.00008	0.00005	0.00001
0.5	-0.00009	-0.00009	0.00009	0.00079	0.00174	0.00000	-0.00174	-0.00079	-0.00009	0.00009	0.00009
0.6	0.00001	-0.00005	-0.00009	0.00009	0.00078	0.00174	-0.00000	-0.00174	-0.00079	-0.00009	0.00005
0.7	0.00002	-0.00001	-0.00005	-0.00008	0.00009	0.00079	0.00174	-0.00000	-0.00079	-0.00181	-0.00076
0.8	0.00001	0.00000	-0.00001	-0.00005	-0.00008	0.00009	0.00079	0.00175	-0.00000	-0.00188	-0.00183
0.9	0.00000	0.00000	0.00000	-0.00001	-0.00005	-0.00009	0.00015	0.00104	0.00212	-0.00056	-0.00598
1.0	0.00000	0.00000	0.00000	-0.00001	-0.00005	-0.00010	0.00004	0.00000	0.00210	0.00099	-0.01108

ϵ_{QM}

X/l a/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	5.57705	2.68920	2.31595	-0.25006	-2.18425	-0.03499	0.00870	0.00097	0.00233	0.00000
0.1	0.00000	5.65198	3.33195	2.65075	-0.20319	-2.10000	-0.05531	0.00367	0.00975	0.00351	0.00000
0.2	0.00000	2.45799	4.76904	2.58727	0.45065	-0.10001	-0.15005	-0.03903	0.00510	0.00054	0.00000
0.3	0.00000	2.26054	2.45337	4.72799	2.56923	0.44065	-0.10005	-0.14001	-0.03671	0.00372	0.00000
0.4	0.00000	-0.25004	0.33053	2.54920	4.75164	2.56923	0.44067	-0.10000	-0.14000	-0.03003	0.00000
0.5	0.00000	-0.15165	-0.15125	0.43905	2.56002	4.75065	2.56200	0.43905	-0.10100	-0.15165	0.00000
0.6	0.00000	-0.03003	-0.14459	-0.15333	0.44327	2.56533	4.75164	2.54930	0.39003	-0.25241	0.00000
0.7	0.00000	0.00872	-0.03671	-0.14001	-0.10000	0.44065	2.56923	4.72799	2.45336	0.26054	0.00000
0.8	0.00000	0.00664	0.00510	-0.03903	-0.15000	-0.10001	0.45066	2.56707	4.76904	2.45799	0.00000
0.9	0.00000	0.00351	0.00975	0.00367	-0.05532	-0.10000	-0.03316	0.00276	3.35196	5.65198	0.00000
1.0	0.00000	0.00233	0.00897	0.00078	-0.03499	-0.18425	-0.26006	0.31595	2.68920	5.97705	0.00000

ϵ_{MM}

X/l a/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	
0.0	0.00000	-1.00000	-0.53954	-0.09318	0.03877	0.03138	0.00832	-0.00095	-0.00167	-0.00062	-0.00007	0.00000
0.1	0.00000	0.35445	-0.64555	-0.16114	0.02405	0.03492	0.01212	0.00023	-0.00171	-0.00081	-0.00014	0.00000
0.2	0.00000	0.11087	0.49566	-0.50434	-0.11420	0.02405	0.02790	0.00895	-0.00014	-0.00135	-0.00048	0.00000
0.3	0.00000	-0.00313	0.11781	0.49925	-0.50075	-0.11362	0.02377	0.02766	0.00889	0.00004	-0.00000	0.00000
0.4	0.00000	-0.01799	-0.02113	0.11240	0.49951	-0.50049	-0.11271	0.02411	0.02768	0.00906	0.00074	0.00000
0.5	0.00000	-0.00763	-0.02713	-0.02410	0.11244	0.50000	-0.50000	-0.11244	0.02410	0.02713	0.00763	0.00000
0.6	0.00000	-0.00074	-0.00906	-0.02768	-0.02411	0.11271	0.50049	-0.49951	-0.11240	0.02113	0.01799	0.00000
0.7	0.00000	0.00000	-0.00004	-0.00889	-0.02766	-0.02377	0.11362	0.50075	-0.49925	-0.11781	0.00313	0.00000
0.8	0.00000	0.00048	0.00135	0.00014	-0.00895	-0.02790	-0.02405	0.11419	0.50434	-0.49566	-0.11087	0.00000
0.9	0.00000	0.00014	0.00081	0.00171	-0.00023	-0.01212	-0.03492	-0.02405	0.16114	0.64555	-0.35445	0.00000
1.0	0.00000	0.00007	0.00062	0.00167	0.00095	-0.00832	-0.03138	-0.03877	0.09318	0.53954	-1.00000	0.00000

ϵ_{YP}

X/l a/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00200	0.00040	-0.00011	-0.00010	-0.00022	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.1	0.00040	0.00055	0.00025	0.00003	-0.00002	-0.00001	-0.00002	0.00000	0.00000	0.00000	0.00000
0.2	-0.00011	0.00025	0.00052	0.00026	0.00003	-0.00002	-0.00001	-0.00000	0.00000	0.00000	0.00000
0.3	-0.00010	0.00003	0.00026	0.00050	0.00025	0.00003	-0.00002	-0.00001	-0.00000	0.00000	0.00000
0.4	-0.00002	-0.00002	0.00003	0.00025	0.00050	0.00025	0.00003	-0.00002	-0.00001	-0.00000	0.00000
0.5	0.00000	-0.00001	-0.00002	0.00003	0.00025	0.00050	0.00025	0.00003	-0.00002	-0.00001	0.00000
0.6	0.00000	-0.00000	-0.00001	-0.00002	0.00003	0.00025	0.00050	0.00025	0.00003	-0.00002	-0.00002
0.7	0.00000	0.00000	-0.00000	-0.00001	-0.00002	0.00003	0.00025	0.00050	0.00025	0.00003	-0.00010
0.8	0.00000	0.00000	0.00000	-0.00000	-0.00001	-0.00002	0.00003	0.00025	0.00052	0.00025	-0.00011
0.9	0.00000	0.00000	0.00000	0.00000	-0.00000	-0.00001	-0.00002	0.00003	0.00025	0.00055	0.00040
1.0	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	-0.00002	-0.00010	-0.00011	0.00040	0.00200

ϵ_{MP}

X/l a/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	-0.03095	-0.01231	-0.00070	0.00139	0.00055	0.00007	-0.00006	-0.00003	-0.00001	0.00000
0.1	0.00000	0.02333	-0.00301	-0.00467	-0.00134	0.00010	0.00022	0.00007	0.00000	-0.00001	0.00000
0.2	0.00000	0.00038	0.02565	-0.00294	-0.00464	-0.00145	0.00005	0.00022	0.00000	0.00001	0.00000
0.3	0.00000	-0.00301	-0.00237	0.02496	-0.00204	-0.00451	-0.00141	0.00005	0.00021	0.00007	0.00000
0.4	0.00000	-0.00125	-0.00441	-0.00276	0.02499	-0.00277	-0.00448	-0.00141	0.00003	0.00013	0.00000
0.5	0.00000	-0.00009	-0.00143	-0.00448	-0.00276	0.02500	-0.00276	-0.00448	-0.00143	-0.00009	0.00000
0.6	0.00000	0.00013	0.00003	-0.00141	-0.00448	-0.00277	0.02499	-0.00276	-0.00441	-0.00125	0.00000
0.7	0.00000	0.00007	0.00021	0.00005	-0.00141	-0.00451	-0.00204	0.02496	-0.00237	-0.00301	0.00000
0.8	0.00000	0.00001	0.00000	0.00022	0.00005	-0.00145	-0.00464	-0.00294	0.02565	0.00038	0.00000
0.9	0.00000	-0.00001	0.00000	0.00007	0.00022	0.00110	-0.00134	-0.00467	-0.00301	0.02333	0.00000
1.0	0.00000	-0.00001	-0.00003	-0.00006	0.00007	0.00055	0.00139	-0.00007	-0.01231	-0.03095	0.00000

ϵ_{QP}

X/l a/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000										
0.1	-1.00000	0.11000	0.17930	0.05631	-0.00189	-0.00837	-0.00307	-0.00009	0.00030	0.00015	0.00000
0.2	0.00000	0.49306	-0.50614	-0.08837	0.03337	0.02522	0.00551	-0.00122	-0.00123	-0.00030	0.00000
0.3	0.00000	0.06850	0.48391	-0.51609	-0.10160	0.02946	0.02546	0.00613	-0.00100	-0.00120	-0.00029
0.4	0.00000	-0.03961	0.09150	0.49841	-0.50159	-0.09894	0.02855	0.02474	0.00595	-0.00104	-0.00125
0.5	0.00000	-0.02502	-0.02912	0.09905	0.50000	-0.50000	-0.09932	0.02820	0.02457	0.00558	-0.00156
0.6	0.00000	-0.00458	-0.02396	-0.02808	0.09933	0.50000	-0.09933	-0.02808	0.02396	0.00458	0.00000
0.7	0.00000	0.00156	-0.00558	-0.02457	-0.02820	0.09932	0.50000	-0.09904	0.02912	0.02502	0.00000
0.8	0.00000	0.00125	0.00104	-0.00595	-0.02474	-0.02855	0.09895	0.50159	-0.49841	-0.09151	0.03960
0.9	0.00000	0.00029	0.00120	0.00100	-0.00613	-0.02546	-0.02946	0.10160	0.51609	-0.48391	-0.06850
1.0	0.00000	-0.00007	0.00030	0.00123	0.00122	-0.00551	-0.02522	-0.03337	0.08837	0.50614	-0.49306
1.0	0.00000	-0.00015	-0.00030	0.00009	0.00307	0.00837	0.00189	-0.05631	-0.17930	-0.11079	1.00000

ϵ_{ym}

X/l a/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.01020	-0.00111	-0.00179	-0.00056	0.00202	0.00209	0.00203	0.00020	-0.00020	-0.00000	0.00000
0.1	0.00508	0.00040	-0.00187	-0.00080	-0.00206	0.00208	0.00204	0.00001	-0.00000	-0.00000	0.00000
0.2	0.00067	0.00165	0.00003	-0.00155	-0.00262	-0.00094	0.00007	0.00003	0.00000	-0.00000	-0.00000
0.3	-0.00042	0.00060	0.00160	0.00002	-0.00155	-0.00062	-0.00004	0.00007	0.00003	0.00000	-0.00001
0.4	-0.00026	0.00002	0.00063	0.00156	0.00000	-0.00155	-0.00062	-0.00003	0.00007	0.00003	-0.00002
0.5	-0.00005	-0.00007	0.00003	0.00062	0.00155	0.00000	-0.00155	-0.00062	-0.00003	0.00007	0.00003
0.6	0.00002	-0.00003	-0.00007	0.00003	0.00062	0.00155	-0.00000	-0.00156	-0.00063	-0.00002	0.00025
0.7	0.00001	-0.00000	-0.00003	-0.00007	0.00004	0.00062	0.00155	-0.00002	-0.00160	-0.00060	0.00042
0.8	0.00000	0.00000	-0.00000	-0.00003	-0.00007	0.00004	0.00062	0.00155	-0.00003	-0.00165	-0.00067
0.9	0.00000	0.00000	0.00000	-0.00001	-0.00004	-0.00008	0.00006	0.00000	0.00187	-0.00040	-0.00000
1.0	0.00000	0.00000	0.00000	0.00000	-0.00003	-0.00008	-0.00002	0.00006	0.00179	0.00111	-0.01000

ϵ_{QM}

X/l a/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	5.19120	2.46102	0.14052	-0.27722	-0.12991	-0.01393	2.01195	2.00529	0.00057	0.00000
0.1	0.00000	5.89690	3.24315	0.49000	-0.24367	-0.16328	-0.33192	0.00938	2.00783	0.00147	0.00000
0.2	0.00000	2.40425	4.59255	2.55647	2.34088	-0.21042	-0.12980	-0.22374	0.00858	-0.00647	0.00000
0.3	0.00000	0.15771	2.44307	4.90454	2.54084	0.30856	-0.21043	-0.12983	-0.22099	0.01123	0.00000
0.4	0.00000	-0.26268	2.29581	2.53352	5.22106	2.54326	0.33384	-0.21073	-0.12401	-0.01447	0.00000
0.5	0.00000	-0.12577	-0.21025	0.33257	2.54147	5.00014	2.54147	0.33257	-0.21305	-0.12577	0.00000
0.6	0.00000	-0.01447	-0.12491	-0.21073	0.33384	2.54326	5.00186	2.53353	0.29581	-0.26268	0.00000
0.7	0.00000	0.01123	-0.02099	-0.12983	-0.21043	0.33856	2.54084	4.98464	2.44307	0.15771	0.00000
0.8	0.00000	0.00147	0.00858	-0.00647	-0.12980	-0.21042	0.34087	2.55646	4.99055	2.40426	0.00000
0.9	0.00000	0.00147	0.00783	0.00938	-0.01392	-0.16328	-0.24367	0.49080	3.24215	5.89690	0.00000
1.0	0.00000	0.00057	0.00539	0.01195	-0.01393	-0.12991	-0.27722	0.14052	2.46120	5.19120	0.00000

ϵ_{MM}

X/l a/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0	
0.0	0.00000	-1.00000	-0.50833	-0.06674	0.04226	0.02583	0.00455	-0.00169	-0.00128	-0.00029	0.00001	0.00000
0.1	0.00000	0.37000	-0.62920	-0.13729	0.03057	0.03073	0.00808	-0.00095	-0.00147	-0.00046	-0.00003	0.00000
0.2	0.00000	0.10337	0.49777	-0.50223	-0.10081	0.02790	0.02473	0.00606	-0.00094	-0.00118	-0.00031	0.00000
0.3	0.00000	-0.00909	0.10363	0.49911	-0.50089	-0.10031	0.02791	0.02465	0.00602	-0.00084	-0.00002	0.00000
0.4	0.00000	-0.01760	-0.02617	0.09922	0.49967	-0.50033	-0.09951	0.02812	0.02462	0.00618	-0.00009	0.00000
0.5	0.00000	-0.00577	-0.02443	-0.02810	0.09938	0.50000	-0.50000	-0.09938	0.02811	0.02443	0.00577	0.00000
0.6	0.00000	0.00009	-0.00618	-0.02462	-0.02812	0.09950	0.50033	-0.49967	-0.09921	0.02617	0.01760	0.00000
0.7	0.00000	0.00082	0.00084	-0.00602	-0.02465	-0.02791	0.10031	0.50089	-0.49911	-0.10364	0.00909	0.00000
0.8	0.00000	0.00031	0.00118	0.00094	-0.00606	-0.02473	-0.02789	0.10081	0.50223	-0.49777	-0.10337	0.00000
0.9	0.00000	0.00003	0.00046	0.00147	0.00095	-0.00808	-0.03073	-0.03057	0.13729	0.62920	-0.37000	0.00000
1.0	0.00000	-0.00001	0.00029	0.00128	0.00169	-0.00455	-0.02583	-0.04226	0.06674	0.50833	1.00000	0.00000

ϵ_{yp}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.0015	0.00013	-0.00008	-0.00003	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.1	0.00013	0.00030	0.00011	-0.00000	-0.00001	-0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.2	-0.00008	0.00011	0.00030	0.00011	-0.00000	-0.00001	-0.00000	0.00000	0.00000	0.00000	0.00000
0.3	-0.00003	-0.00000	0.00011	0.00029	0.00011	-0.00000	-0.00001	-0.00000	0.00000	0.00000	0.00000
0.4	0.00000	-0.00001	-0.00000	0.00011	0.00029	0.00011	-0.00000	-0.00001	-0.00000	0.00000	0.00000
0.5	0.00000	-0.00000	-0.00001	-0.00000	0.00011	0.00029	0.00011	-0.00000	-0.00001	-0.00000	0.00000
0.6	0.00000	0.00000	-0.00000	-0.00001	-0.00000	0.00011	0.00029	0.00011	-0.00000	-0.00001	0.00000
0.7	0.00000	0.00000	0.00000	-0.00000	-0.00001	-0.00000	0.00011	0.00029	0.00011	-0.00000	-0.00003
0.8	0.00000	0.00000	0.00000	0.00000	-0.00000	-0.00001	-0.00000	0.00011	0.00030	0.00011	-0.00008
0.9	0.00000	0.00000	0.00000	0.00000	0.00000	-0.00000	-0.00001	-0.00000	0.00011	0.00030	0.00013
1.0	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	-0.00003	-0.00008	0.00013	0.00116

ϵ_{MP}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	-0.02339	-0.00511	0.00101	0.00068	0.00006	-0.00005	-0.00002	0.00000	0.00000	0.00000
0.1	0.00000	0.02095	-0.00387	-0.00275	-0.00025	0.00019	0.00007	-0.00000	-0.00001	-0.00000	0.00000
0.2	0.00000	-0.00175	0.02099	-0.00371	-0.00271	-0.00026	0.00019	0.00006	-0.00000	-0.00001	0.00000
0.3	0.00000	-0.00228	-0.00351	0.02081	-0.00358	-0.00267	-0.00026	0.00019	0.00006	0.00000	0.00000
0.4	0.00000	-0.00034	-0.00267	-0.00357	0.02083	-0.00357	-0.00267	-0.00026	0.00018	0.00006	0.00000
0.5	0.00000	0.00013	-0.00026	-0.00267	-0.00357	0.02083	-0.00357	-0.00267	-0.00026	0.00013	0.00000
0.6	0.00000	0.00006	0.00018	-0.00026	-0.00267	-0.00357	0.02083	-0.00357	-0.00267	-0.00034	0.00000
0.7	0.00000	0.00000	0.00006	0.00019	-0.00026	-0.00267	-0.00358	0.02081	-0.00351	-0.00228	0.00000
0.8	0.00000	-0.00001	-0.00000	0.00006	0.00019	-0.00026	-0.00271	-0.00371	0.02099	-0.00175	0.00000
0.9	0.00000	-0.00000	-0.00001	-0.00000	0.00007	0.00019	-0.00025	-0.00275	-0.00387	0.02095	0.00000
1.0	0.00000	0.00000	0.00000	-0.00002	-0.00005	0.00006	0.00068	0.00101	-0.00511	-0.02339	0.00000

ϵ_{QP}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000										
0.1	-1.00000	0.17160	0.12817	0.01241	-0.00892	-0.00307	0.00014	0.00031	0.00005	-0.00002	0.00000
0.2	0.00000	0.48528	-0.51472	-0.05284	0.03516	0.01247	-0.00047	-0.00123	-0.00023	0.00006	0.00003
0.3	0.00000	0.03084	0.49179	-0.50821	-0.05421	0.03427	0.01240	-0.00040	-0.00121	-0.00022	0.00007
0.4	0.00000	-0.03729	0.05262	0.49992	-0.50008	-0.05441	0.03349	0.01224	-0.00037	-0.00117	-0.00017
0.5	0.00000	-0.01094	-0.03313	0.05452	0.49996	-0.50004	-0.05457	0.03345	0.01225	-0.00038	-0.00121
0.6	0.00000	0.00100	-0.01200	-0.03345	0.05455	0.50000	-0.50000	-0.05455	0.03345	0.01200	-0.00100
0.7	0.00000	0.06121	0.00038	-0.01225	-0.03345	0.05457	0.50004	-0.49996	-0.05452	0.03313	0.01094
0.8	0.00000	0.00017	0.00117	0.00037	-0.01224	-0.03349	0.05441	0.50008	-0.49992	-0.05262	0.03729
0.9	0.00000	-0.00007	0.00022	0.00121	0.00040	-0.01240	-0.03427	0.05421	0.50821	-0.49179	-0.03084
1.0	0.00000	-0.00003	-0.00006	0.00023	0.00123	0.00047	-0.01247	-0.03516	0.05283	0.51472	-0.48528
											0.00000
											1.00000
											0.00000

ϵ_{ym}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00694	-0.00119	-0.00089	-0.00009	0.00006	0.00082	0.00000	-0.00000	0.00000	0.00000	0.00000
0.1	0.00271	0.00008	-0.00111	-0.00025	0.00005	0.00003	0.00000	-0.00000	0.00000	0.00000	0.00000
0.2	-0.00004	0.00101	0.00003	-0.00097	-0.00021	0.00004	0.00003	0.00000	-0.00000	0.00000	0.00000
0.3	-0.00025	0.00021	0.00099	0.00000	-0.00098	-0.00021	0.00004	0.00003	0.00000	-0.00000	0.00000
0.4	-0.00005	-0.00005	0.00021	0.00098	0.00000	-0.00097	-0.00021	0.00004	0.00003	0.00000	-0.00001
0.5	0.00001	-0.00003	-0.00004	0.00021	0.00097	0.00000	-0.00097	-0.00021	0.00004	0.00003	-0.00001
0.6	0.00001	-0.00000	-0.00003	-0.00004	0.00021	0.00097	0.00000	-0.00098	-0.00021	0.00005	0.00005
0.7	0.00000	0.00000	-0.00000	-0.00003	-0.00004	0.00021	0.00098	-0.00000	-0.00000	-0.00000	0.00000
0.8	0.00000	0.00000	0.00000	-0.00000	-0.00003	-0.00004	0.00021	0.00097	-0.00003	-0.00001	0.00004
0.9	0.00000	0.00000	0.00000	0.00000	-0.00000	-0.00003	-0.00005	0.00025	0.00111	-0.00000	-0.00271
1.0	0.00000	0.00000	0.00000	0.00000	0.00000	-0.00002	-0.00005	0.00009	0.00009	0.00119	-0.00694

ϵ_{QP}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	6.73740	1.47064	-2.25013	-2.19676	-2.21682	2.21422	2.20461	-2.20223	-2.20248	2.20000
0.1	2.20000	5.76923	2.71926	-0.00251	-0.05116	-0.05236	0.21123	0.20725	0.00054	-0.00059	2.20000
0.2	0.00000	2.12822	5.94649	2.34843	-0.00683	-0.01250	-0.04534	2.20296	0.00618	2.00016	0.00000
0.3	0.00000	-0.15322	2.29323	5.02262	2.24253	-2.20191	-0.01976	-0.24437	0.21009	0.00597	2.00000
0.4	2.20000	-0.22494	-0.02892	2.33953	5.02033	2.20222	-0.02231	-0.21956	-0.24372	0.01273	0.00000
0.5	0.00000	-0.03511	-0.21652	-2.03295	2.33229	5.00932	2.33939	-0.03392	-0.21552	-0.20311	0.20000
0.6	0.00000	0.01273	-0.24372	-0.21956	-2.03191	2.33722	5.00022	2.33852	-2.02992	-0.20484	0.00000
0.7	0.00000	0.20597	0.21009	-0.24437	-0.21976	-0.02087	2.24156	5.00002	2.29222	-0.19293	0.20000
0.8	0.00000	0.00054	0.00059	2.00016	-0.24324	-0.01037	-2.20682	2.24840	5.04650	2.12906	2.20000
0.9	2.20000	-0.00058	0.20054	0.00726	0.21122	-0.05236	-0.05116	-2.00251	2.71926	5.76903	0.00700
1.0	0.00000	-0.00248	-0.00029	0.00451	0.01422	-0.21682	-0.19676	-2.20019	1.47064	6.72740	0.00000

ϵ_{MM}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000										
0.1	-1.00000	-0.38986	0.00562	0.03659	0.00748	-0.00169	-0.00105	-0.00000	0.00000	0.00002	0.00000
0.2	0.00000	0.42400									
0.3	0.00000	-0.57600	-0.06622	0.03780	0.01426	-0.00032	-0.00136	-0.00027	0.00006	0.00003	0.00000
0.4	0.00000	0.06840	0.49998								
0.5	0.00000		-0.50002	-0.05583	0.03317	0.01231	-0.00032	-0.00119	-0.00023	0.00003	0.00000
0.6	0.00000	-0.02353	0.05562	0.49933							
0.7	0.00000		-0.50067	-0.05481	0.03346	0.01228	-0.00035	-0.00119	-0.00024	0.00000	0.00000
0.8	0.00000	-0.01134	-0.03322	0.05454	0.49997						
0.9	0.00000		-0.50003	-0.05457	0.03344	0.01224	-0.00033	-0.00033	-0.00095	0.00000	0.00000
1.0	0.00000	-0.00034	-0.01230	-0.03339	0.05459	0.50000					
0.1	0.00000	0.00095	0.00033	-0.01224	-0.03344	0.05457	-0.50000	-0.05459	0.03339	0.01230	0.00034
0.2	0.00000		0.00033	-0.01224	-0.03344	0.05457	0.50000	-0.05459	0.03339	0.01230	0.00034
0.3	0.00000	0.00024	0.00119	0.00035	-0.01228	-0.03346	0.05481	0.50067	-0.03322	0.01134	0.00000
0.4	0.00000		0.00119	0.00035	-0.01228	-0.03346	0.05481	0.50067	-0.03322	0.01134	0.00000
0.5	0.00000	0.00024	0.00119	0.00035	-0.01228	-0.03346	0.05481	0.50067	-0.03322	0.01134	0.00000
0.6	0.00000		0.00119	0.00035	-0.01228	-0.03346	0.05481	0.50067	-0.03322	0.01134	0.00000
0.7	0.00000	0.00024	0.00119	0.00035	-0.01228	-0.03346	0.05481	0.50067	-0.03322	0.01134	0.00000
0.8	0.00000	-0.00003	0.00023	0.00119	0.00032	-0.01231	-0.03317	0.05583	0.50002	-0.06840	0.00000
0.9	0.00000		-0.00006	0.00027	0.00136	0.00032	-0.01426	-0.03780	0.06621	0.57600	0.00000
1.0	0.00000	-0.00002	-0.00008	0.00008	0.00105	0.00169	-0.00748	-0.03659	-0.00562	0.38987	1.00000

ϵ_{yp}

$a/l \backslash X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00073	0.00003	-0.00004	-0.00001	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.1	0.00003	0.00019	0.00005	-0.00001	-0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.2	-0.00004	0.00005	0.00018	0.00005	-0.00001	-0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.3	-0.00001	-0.00001	0.00005	0.00018	0.00005	-0.00001	-0.00000	0.00000	0.00000	0.00000	0.00000
0.4	0.00000	-0.00000	-0.00001	0.00005	0.00018	0.00005	-0.00001	-0.00000	0.00000	0.00000	0.00000
0.5	0.00000	0.00000	-0.00000	-0.00001	0.00005	0.00018	0.00005	-0.00001	-0.00000	0.00000	0.00000
0.6	0.00000	0.00000	0.00000	-0.00000	-0.00001	0.00005	0.00018	0.00005	-0.00001	-0.00000	0.00000
0.7	0.00000	0.00000	0.00000	0.00000	-0.00000	-0.00001	0.00005	0.00018	0.00005	-0.00001	-0.00001
0.8	0.00000	0.00000	0.00000	0.00000	0.00000	-0.00000	-0.00001	0.00005	0.00018	0.00005	-0.00004
0.9	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	-0.00000	-0.00001	0.00005	0.00019
1.0	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	-0.00001	-0.00004	0.00003	0.00073

ϵ_{MP}

$a/l \backslash X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	-0.01736	-0.00146	0.00093	0.00017	-0.00004	-0.00001	0.00000	0.00000	0.00000	0.00000
0.1	0.00000	0.01852	-0.00375	-0.00144	0.00011	0.00010	0.00000	-0.00001	0.00000	0.00000	0.00000
0.2	0.00000	-0.00270	0.01785	-0.00365	-0.00139	0.00011	0.00009	0.00000	-0.00001	0.00000	0.00000
0.3	0.00000	-0.00135	-0.00358	0.01786	-0.00359	-0.00139	0.00010	0.00009	0.00000	-0.00000	0.00000
0.4	0.00000	0.00005	-0.00139	-0.00359	0.01786	-0.00359	-0.00139	0.00010	0.00009	0.00000	0.00000
0.5	0.00000	0.00009	0.00010	-0.00139	-0.00359	0.01786	-0.00359	-0.00139	0.00010	0.00009	0.00000
0.6	0.00000	0.00000	0.00009	0.00010	-0.00139	-0.00359	0.01786	-0.00359	-0.00139	0.00005	0.00000
0.7	0.00000	-0.00000	0.00000	0.00009	0.00010	-0.00139	-0.00359	0.01786	-0.00358	-0.00135	0.00000
0.8	0.00000	0.00000	-0.00001	0.00000	0.00009	0.00011	-0.00139	-0.00365	0.01785	-0.00270	0.00000
0.9	0.00000	0.00000	0.00000	-0.00001	0.00000	0.00010	0.00011	-0.00144	-0.00375	0.01852	0.00000
1.0	0.00000	0.00000	0.00000	0.00000	-0.00001	-0.00004	0.00017	0.00093	-0.00146	-0.01736	0.00000

ϵ_{QP}

$a/l \backslash X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000										
0.1	-1.00000	0.20108	0.07767	-0.00572	-0.00520	-0.00009	0.00031	0.00003	-0.00002	-0.00000	0.00000
0.2	0.00000	0.47978	-0.02138	0.02904	0.00300	-0.00150	-0.00036	0.00006	0.00003	-0.00000	0.00000
0.3	0.00000	-0.52022	0.49698	-0.50302	-0.02029	0.02889	0.00366	-0.00145	-0.00034	0.00006	0.00000
0.4	0.00000	0.00576	-0.50002	-0.02094	0.02865	0.00368	-0.00143	-0.00034	0.00007	0.00000	0.00000
0.5	0.00000	-0.02865	-0.50001	-0.02096	0.02865	0.00367	-0.00143	-0.00029	0.00000	0.00000	0.00000
0.6	0.00000	0.00151	-0.02865	-0.02095	0.02895	0.50000	-0.02095	0.02865	0.00365	-0.00151	0.00000
0.7	0.00000	0.00029	0.00143	-0.00367	-0.02865	0.02096	0.50001	-0.02091	0.02865	0.00365	-0.00151
0.8	0.00000	-0.00007	0.00034	0.00143	-0.00368	-0.02865	-0.02094	-0.02091	0.02865	0.00365	-0.00151
0.9	0.00000	0.00002	-0.00006	0.00034	0.00145	-0.00366	-0.02889	-0.02029	0.02865	0.00365	-0.00151
1.0	0.00000	-0.00002	0.00006	0.00034	0.00145	-0.00366	-0.02889	0.02029	-0.02091	0.02865	-0.00151

ϵ_{ym}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00510	-0.00103	-0.00040	0.00003	0.00003	0.00000	-0.00000	0.00000	0.00000	0.00000	0.00000
0.1	0.00145	0.00001	-0.00057	-0.00006	0.00004	0.00001	-0.00000	0.00000	0.00000	0.00000	0.00000
0.2	-0.00019	0.00065	0.00002	-0.00062	-0.00005	0.00003	0.00001	-0.00000	0.00000	0.00000	0.00000
0.3	-0.00010	0.00005	0.00062	0.00000	-0.00062	-0.00005	0.00003	0.00001	-0.00000	0.00000	0.00000
0.4	0.00000	-0.00003	0.00005	0.00062	0.00000	-0.00062	-0.00005	0.00003	0.00001	-0.00000	0.00000
0.5	0.00001	-0.00001	-0.00003	0.00005	0.00062	0.00000	-0.00062	-0.00005	0.00003	0.00001	-0.00001
0.6	0.00000	0.00000	-0.00001	-0.00003	0.00005	0.00062	0.00000	-0.00062	-0.00005	0.00003	-0.00000
0.7	0.00000	0.00000	0.00000	-0.00001	-0.00003	0.00005	0.00062	0.00000	-0.00062	-0.00005	0.00010
0.8	0.00000	0.00000	0.00000	0.00000	-0.00001	-0.00003	0.00005	0.00062	-0.00002	-0.00005	0.00019
0.9	0.00000	0.00000	0.00000	0.00000	0.00000	-0.00001	-0.00004	0.00006	0.00067	-0.00001	-0.00145
1.0	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	-0.00003	-0.00003	0.00040	0.00103	-0.00510

ϵ_{QM}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	6.80424	2.57036	-0.35595	-2.06535	2.21577	2.20535	-2.20057	-0.20037	2.00001	0.00000
0.1	0.00000	7.54357	2.16131	-0.27756	-2.15472	0.00001	0.20073	2.20758	-2.20254	-2.00006	0.00000
0.2	0.00000	1.74735	6.96258	-0.20642	-0.35526	-0.14341	2.00257	0.00001	0.20054	-2.00051	2.00000
0.3	0.00000	-0.31204	1.90126	7.20217	1.99544	-0.35553	-2.14301	0.00075	0.00006	0.00025	0.00000
0.4	0.00000	-0.12244	-0.25737	1.99391	6.99580	1.99449	-0.35547	-0.14303	0.00074	0.00071	0.00000
0.5	2.00000	0.00000	-0.14202	-2.25856	1.99439	7.20001	1.99439	-0.35556	-0.14206	2.00000	0.00000
0.6	0.00000	0.00071	0.00374	-2.14293	-0.25847	1.99448	6.99589	1.99291	-2.25737	-0.12244	0.00000
0.7	0.00000	0.00025	0.00006	0.00375	-2.14301	-0.35553	1.99544	7.00215	1.90126	-0.31224	0.00000
0.8	0.00000	-0.00051	0.00054	0.00001	0.00352	-0.14341	-0.35526	0.00040	6.96258	1.74754	0.00000
0.9	0.00000	-0.00006	-0.00054	0.00058	0.00073	2.00001	-0.15472	-0.27756	2.16131	7.54356	0.00000
1.0	0.00000	0.00001	-0.00037	-0.00057	0.00036	2.21577	-0.26535	-0.35535	0.57036	6.80424	0.00000

ϵ_{MM}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000										
0.1	-1.00000	-0.20494	0.03692	0.02042	-0.00053	-0.00129	-0.00008	0.00007	0.00001	-0.00000	0.00000
0.2	0.00000	0.45941									
0.3	0.00000	-0.54059	-0.02309	0.03094	0.00400	-0.00155	-0.00037	0.00006	0.00003	0.00000	0.00000
0.4	0.00000	0.03361	0.49932								
0.5	0.00000	0.03361	-0.50068	-0.02178	0.02862	0.00372	-0.00143	-0.00035	0.00006	0.00000	0.00000
0.6	0.00000	-0.02512	0.02103	0.49979							
0.7	0.00000	-0.02512	-0.50021	-0.02098	0.02866	0.00368	-0.00143	-0.00034	0.00004	0.00000	0.00000
0.8	0.00000	-0.00415	-0.02860	0.02099	0.50000						
0.9	0.00000	-0.00415	-0.50000	-0.02096	0.02865	0.00368	-0.00143	-0.00035	0.00000	0.00000	0.00000
1.0	0.00000	0.00118	-0.00368	-0.02063	0.02096	0.50000					
0.1	0.00000	0.00118	-0.00368	-0.02063	-0.50000	-0.02096	0.02863	0.00368	-0.00118	0.00000	0.00000
0.2	0.00000	0.00035	0.00143	-0.00368	-0.02865	0.02096	0.50000	-0.02099	0.02860	0.00415	0.00000
0.3	0.00000	0.00035	0.00143	-0.00368	-0.02865	0.02096	0.50000	-0.02099	0.02860	0.00415	0.00000
0.4	0.00000	-0.00004	0.00034	0.00143	-0.00368	-0.02866	0.02098	0.50021	-0.02103	0.02512	0.00000
0.5	0.00000	-0.00004	0.00034	0.00143	-0.00368	-0.02866	0.02098	0.50021	-0.02103	0.02512	0.00000
0.6	0.00000	-0.00002	-0.00006	0.00035	0.00143	-0.00372	-0.02862	0.02178	0.50068	-0.49932	0.00000
0.7	0.00000	-0.00002	-0.00006	0.00035	0.00143	-0.00372	-0.02862	0.02178	0.50068	-0.49932	0.00000
0.8	0.00000	0.00000	-0.00003	-0.00006	0.00037	0.00155	-0.00400	-0.03094	0.02308	0.54059	0.00000
0.9	0.00000	0.00000	-0.00003	-0.00006	0.00037	0.00155	-0.00400	-0.03094	0.02308	0.54059	0.00000
1.0	0.00000	0.00000	-0.00001	-0.00007	0.00008	0.00129	0.00053	-0.02042	-0.03693	0.20492	1.00000

ϵ_{YP}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00049	-0.00000	-0.00002	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.1	-0.00000	0.00013	0.00002	-0.00001	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.2	-0.00002	0.00002	0.00012	0.00002	-0.00001	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.3	0.00000	-0.00001	0.00002	0.00012	0.00002	-0.00001	0.00000	0.00000	0.00000	0.00000	0.00000
0.4	0.00000	0.00000	-0.00001	0.00002	0.00012	0.00002	-0.00001	0.00000	0.00000	0.00000	0.00000
0.5	0.00000	0.00000	0.00000	-0.00001	0.00002	0.00012	0.00002	-0.00001	0.00000	0.00000	0.00000
0.6	0.00000	0.00000	0.00000	0.00000	-0.00001	0.00002	0.00012	0.00002	-0.00001	0.00000	0.00000
0.7	0.00000	0.00000	0.00000	0.00000	0.00000	-0.00001	0.00002	0.00012	0.00002	-0.00001	0.00000
0.8	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	-0.00001	0.00002	0.00012	0.00002	-0.00001
0.9	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	-0.00001	0.00002	0.00013	-0.00000
1.0	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	-0.00002	-0.00000	0.00049

ϵ_{MP}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	-0.01261	0.00015	0.00051	-0.00001	-0.00002	0.00000	0.00000	0.00000	0.00000	0.00000
0.1	0.00000	0.01630	-0.00339	-0.00062	0.00015	0.00002	-0.00001	0.00000	0.00000	0.00000	0.00000
0.2	0.00000	-0.00287	0.01560	-0.00326	-0.00060	0.00014	0.00002	-0.00001	0.00000	0.00000	0.00000
0.3	0.00000	-0.00063	-0.00324	0.01563	-0.00325	-0.00060	0.00014	0.00002	-0.00001	0.00000	0.00000
0.4	0.00000	0.00012	-0.00060	-0.00324	0.01562	-0.00325	-0.00060	0.00014	0.00002	-0.00001	0.00000
0.5	0.00000	0.00002	0.00014	-0.00060	-0.00325	0.01563	-0.00325	-0.00060	0.00014	0.00002	0.00000
0.6	0.00000	-0.00001	0.00002	0.00014	-0.00060	-0.00325	0.01562	-0.00324	-0.00060	0.00012	0.00000
0.7	0.00000	0.00000	-0.00001	0.00002	0.00014	-0.00060	-0.00325	0.01563	-0.00324	-0.00063	0.00000
0.8	0.00000	0.00000	0.00000	-0.00001	0.00002	0.00014	-0.00060	-0.00326	0.01560	-0.00287	0.00000
0.9	0.00000	0.00000	0.00000	0.00000	-0.00001	0.00002	0.00015	-0.00062	-0.00339	0.01630	0.00000
1.0	0.00000	0.00000	0.00000	0.00000	0.00000	-0.00002	-0.00001	0.00051	0.00015	-0.01261	0.00000

ϵ_{QP}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000										
0.1	-1.00000	0.20771	0.03831	-0.00892	-0.00146	0.00038	0.00005	-0.00002	-0.00000	0.00000	0.00000
0.2	0.00000	0.47843	-0.52157	0.00308	0.02122	-0.00038	-0.00006	0.00003	0.00003	-0.00000	-0.00000
0.3	0.00000	-0.01104	0.49927	-0.50073	0.00329	0.02037	-0.00037	-0.00003	0.00003	0.00003	-0.00000
0.4	0.00000	-0.01937	-0.00294	0.49996	-0.50004	0.00295	0.02035	-0.00036	-0.00003	0.00002	0.00003
0.5	0.00000	0.00068	-0.02032	-0.00296	0.50000	-0.50000	0.00295	0.02035	-0.00036	-0.00002	0.00003
0.6	0.00000	0.00078	0.00036	-0.02034	-0.00295	0.50000	-0.50000	0.00295	0.02034	-0.00036	-0.00078
0.7	0.00000	-0.00004	0.00082	0.00036	-0.02035	-0.00295	0.50000	-0.50000	0.00296	0.02032	-0.00068
0.8	0.00000	-0.00003	-0.00002	0.00083	0.00036	-0.02035	-0.00295	0.50004	-0.49996	0.00294	0.01937
0.9	0.00000	0.00000	-0.00003	-0.00003	0.00083	0.00037	-0.02037	-0.00329	0.50073	-0.49927	0.01104
1.0	0.00000	0.00000	0.00000	-0.00003	-0.00003	0.00086	0.00038	-0.02122	-0.00308	0.52157	-0.47843

ϵ_{ym}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00391	-0.00081	-0.00015	0.00003	0.00001	-0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.1	0.00077	0.00000	-0.00041	0.00000	0.00002	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.2	-0.00017	0.00041	0.00001	-0.00039	0.00000	0.00002	0.00000	0.00000	0.00000	0.00000	0.00000
0.3	-0.00003	-0.00000	0.00039	0.00000	-0.00039	0.00000	0.00002	0.00000	0.00000	0.00000	0.00000
0.4	0.00001	-0.00002	-0.00000	0.00039	0.00000	-0.00039	0.00000	0.00002	0.00000	0.00000	0.00000
0.5	0.00000	0.00000	-0.00002	-0.00000	0.00039	0.00000	-0.00039	0.00000	0.00002	0.00000	-0.00000
0.6	0.00000	0.00000	0.00000	-0.00002	-0.00000	0.00039	0.00000	-0.00039	0.00000	0.00002	-0.00001
0.7	0.00000	0.00000	0.00000	0.00000	-0.00002	-0.00000	0.00039	0.00000	-0.00039	0.00000	0.00003
0.8	0.00000	0.00000	0.00000	0.00000	0.00000	-0.00002	-0.00000	0.00039	-0.00001	-0.00041	0.00017
0.9	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	-0.00002	-0.00000	0.00041	0.00000	-0.00077
1.0	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	-0.00001	-0.00003	0.00015	0.00001	-0.00391

ϵ_{QM}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	2.20200	6.45793	-0.07614	-2.05274	0.00600	0.01053	-0.00075	-2.00045	0.00072	0.00002	0.00000
0.1	0.00000	0.30651	1.62759	-0.35772	-0.26312	0.01053	0.00075	-2.00045	-2.00079	2.00003	0.00000
0.2	2.20200	1.35435	7.99934	1.57572	-0.30450	-0.05007	0.01074	0.00000	-2.00002	-2.00007	2.00000
0.3	0.00000	-0.35458	1.56302	0.00244	-1.55741	-0.20452	-0.05000	0.01075	2.00035	-2.00054	0.00000
0.4	0.00000	-0.25143	-0.34422	1.55937	7.99934	1.56774	-0.30453	-0.05000	0.01070	2.00150	0.00000
0.5	0.00000	0.01506	-0.05374	-0.30459	-1.55723	0.00000	1.55731	-0.30459	-0.05374	0.01506	0.00000
0.6	2.20200	0.20155	2.21473	-0.05381	-2.30453	1.55733	7.99935	1.55537	-0.34407	-0.25143	0.00000
0.7	0.00000	-0.00001	0.02526	0.01075	-0.25323	-0.20450	1.55741	0.00000	1.55537	-0.35458	0.00000
0.8	0.00000	-0.00000	-0.00000	0.00000	0.01077	-0.25007	-0.30450	1.55743	7.99934	1.35435	0.00000
0.9	0.00000	0.00000	-0.00000	-0.00000	0.00000	0.01053	-0.05002	-0.05000	1.62759	2.30651	0.00000
1.0	0.00000	0.00000	0.00000	-0.00000	-0.00000	0.01053	0.00000	-0.05000	-0.07614	6.45793	0.00000

ϵ_{MM}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000										
0.1	-1.00000	-0.19592	0.04307	0.00748	-0.00184	-0.00028	0.00000	0.00001	-0.00000	0.00000	0.00000
0.2	0.00000	0.48881									
0.3	0.00000	-0.51919	0.00305	0.02113	-0.00037	-0.00086	0.00003	0.00003	-0.00000	-0.00000	0.00000
0.4	0.00000	0.00538	0.49907								
0.5	0.00000	-0.50093	0.00262	0.02039	-0.00035	-0.00083	0.00002	0.00003	0.00000	0.00000	0.00000
0.6	0.00000	-0.01966	-0.00294	0.49997							
0.7	0.00000	0.00001	-0.02031	-0.00293	0.00295	0.02035	-0.00036	-0.00083	0.00002	0.00003	0.00000
0.8	0.00000	0.00000	-0.02031	-0.00293	-0.50000	0.00295	0.02035	-0.00036	-0.00082	0.00001	0.00000
0.9	0.00000	0.00000	0.00036	-0.02035	-0.00295	0.50000					
1.0	0.00000	-0.00001	0.00082	0.00036	-0.02035	-0.00295	0.50000	0.00295	0.02035	-0.00036	-0.00080
0.1	0.00000	0.00000	0.00082	0.00036	-0.02035	-0.00295	0.50000	0.00295	0.02035	-0.00036	-0.00080
0.2	0.00000	-0.00001	0.00082	0.00036	-0.02035	-0.00295	0.50000	0.00295	0.02035	-0.00036	-0.00080
0.3	0.00000	-0.00003	-0.00002	0.00083	0.00036	-0.02035	-0.00295	0.50003	0.00293	0.02031	-0.00001
0.4	0.00000	-0.00003	-0.00002	0.00083	0.00036	-0.02035	-0.00295	0.50003	0.00293	0.02031	-0.00001
0.5	0.00000	-0.00003	-0.00002	0.00083	0.00036	-0.02035	-0.00295	0.50003	0.00293	0.02031	-0.00001
0.6	0.00000	-0.00003	-0.00002	0.00083	0.00036	-0.02035	-0.00295	0.50003	0.00293	0.02031	-0.00001
0.7	0.00000	-0.00003	-0.00002	0.00083	0.00036	-0.02035	-0.00295	0.50003	0.00293	0.02031	-0.00001
0.8	0.00000	-0.00003	-0.00002	0.00083	0.00036	-0.02035	-0.00295	0.50003	0.00293	0.02031	-0.00001
0.9	0.00000	-0.00003	-0.00002	0.00083	0.00036	-0.02035	-0.00295	0.50003	0.00293	0.02031	-0.00001
1.0	0.00000	-0.00003	-0.00002	0.00083	0.00036	-0.02035	-0.00295	0.50003	0.00293	0.02031	-0.00001

ϵ_{yp}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00034	-0.00001	-0.00001	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.1	-0.00001	0.00009	0.00001	-0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.2	-0.00001	0.00001	0.00009	0.00001	-0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.3	0.00000	-0.00000	0.00001	0.00009	0.00001	-0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.4	0.00000	0.00000	-0.00000	0.00001	0.00009	0.00001	-0.00000	0.00000	0.00000	0.00000	0.00000
0.5	0.00000	0.00000	0.00000	-0.00000	0.00001	0.00009	0.00001	-0.00000	0.00000	0.00000	0.00000
0.6	0.00000	0.00000	0.00000	0.00000	-0.00000	0.00001	0.00009	0.00001	-0.00000	0.00000	0.00000
0.7	0.00000	0.00000	0.00000	0.00000	0.00000	-0.00000	0.00001	0.00009	0.00001	-0.00000	0.00000
0.8	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	-0.00000	0.00001	0.00009	0.00001	-0.00001
0.9	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	-0.00000	0.00001	0.00009	-0.00001
1.0	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	-0.00001	-0.00001	0.00034

ϵ_{MP}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	-0.00894	0.00067	0.00019	-0.00003	-0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.1	0.00000	0.01440	-0.00287	-0.00018	0.00009	-0.00000	-0.00000	0.00000	0.00000	0.00000	0.00000
0.2	0.00000	-0.00253	0.01387	-0.00276	-0.00017	0.00009	-0.00000	-0.00000	0.00000	0.00000	0.00000
0.3	0.00000	-0.00020	-0.00275	0.01389	-0.00276	-0.00017	0.00009	-0.00000	-0.00000	0.00000	0.00000
0.4	0.00000	0.00009	-0.00017	-0.00276	0.01389	-0.00276	-0.00017	0.00009	-0.00000	-0.00000	0.00000
0.5	0.00000	-0.00000	0.00009	-0.00017	-0.00276	0.01389	-0.00276	-0.00017	0.00009	-0.00000	0.00000
0.6	0.00000	-0.00000	-0.00000	0.00009	-0.00017	-0.00276	0.01389	-0.00276	-0.00017	0.00009	0.00000
0.7	0.00000	0.00000	-0.00000	-0.00000	0.00009	-0.00017	-0.00276	0.01389	-0.00276	-0.00017	0.00000
0.8	0.00000	0.00000	0.00000	-0.00000	-0.00000	0.00009	-0.00017	-0.00276	0.01387	-0.00253	0.00000
0.9	0.00000	0.00000	0.00000	0.00000	-0.00000	-0.00000	0.00009	0.00018	-0.00287	0.01440	0.00000
1.0	0.00000	0.00000	0.00000	0.00000	0.00000	-0.00000	-0.00003	0.00019	0.00067	-0.00894	0.00000

ϵ_{QP}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	-1.00000	0.19853	0.01241	-0.00636	0.00014	0.00016	-0.00002	-0.00000	0.00000	0.00000
0.1	0.00000	0.48029	-0.51971	0.01975	0.01272	-0.00149	-0.00024	0.00006	0.00000	-0.00000	0.00000
0.2	0.00000	-0.02221	0.49992	-0.50008	0.01888	0.01225	-0.00144	-0.00023	0.00006	0.00000	-0.00000
0.3	0.00000	-0.01146	-0.01888	0.49998	-0.50002	0.01878	0.01225	-0.00143	-0.00023	0.00006	0.00000
0.4	0.00000	0.00147	-0.01225	-0.01878	0.50000	-0.50000	0.01878	0.01225	-0.00143	-0.00023	0.00006
0.5	0.00000	0.00020	0.00143	-0.01225	-0.01878	0.50000	-0.50000	0.01878	0.01225	-0.00143	-0.00020
0.6	0.00000	-0.00006	0.00023	0.00143	-0.01225	-0.01878	0.50000	-0.50000	0.01878	0.01225	-0.00147
0.7	0.00000	-0.00000	-0.00006	0.00023	0.00143	-0.01225	-0.01878	0.50002	-0.49998	0.01888	0.01146
0.8	0.00000	0.00000	-0.00000	-0.00006	0.00023	0.00144	-0.01225	-0.01888	0.50008	-0.49992	0.02221
0.9	0.00000	0.00000	0.00000	-0.00000	-0.00006	0.00024	0.00149	-0.01272	-0.01975	0.51971	-0.48029
1.0	0.00000	0.00000	0.00000	0.00000	0.00002	-0.00016	-0.00014	0.00636	-0.01241	-0.19853	1.00000

ϵ_{ym}

$a/l \backslash X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00389	-0.00061	-0.00004	0.00002	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.1	0.00338	0.00000	-0.00025	0.00002	0.00001	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.2	-0.00011	0.00025	0.00000	-0.00025	0.00002	0.00001	0.00000	0.00000	0.00000	0.00000	0.00000
0.3	-0.00000	-0.00002	0.00025	0.00000	-0.00025	0.00002	0.00001	0.00000	0.00000	0.00000	0.00000
0.4	0.00000	-0.00001	-0.00002	0.00025	0.00000	-0.00025	0.00002	0.00001	0.00000	0.00000	0.00000
0.5	0.00000	0.00000	-0.00001	-0.00002	0.00025	0.00000	-0.00025	0.00002	0.00001	0.00000	0.00000
0.6	0.00000	0.00000	0.00000	-0.00001	-0.00002	0.00025	0.00000	-0.00025	0.00002	0.00001	-0.00000
0.7	0.00000	0.00000	0.00000	0.00000	-0.00001	-0.00002	0.00025	0.00000	-0.00025	0.00002	0.00000
0.8	0.00000	0.00000	0.00000	0.00000	0.00000	-0.00001	-0.00002	0.00025	-0.00000	-0.00025	-0.00011
0.9	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	-0.00001	-0.00002	0.00025	-0.00000	-0.00030
1.0	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	-0.00002	0.00004	0.00051	-0.00309

ϵ_{QM}

$a/l \backslash X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	5.79512	-2.43529	-2.12565	2.02133	2.00182	-0.00072	0.00000	2.00002	-0.00000	0.00000
0.1	0.00000	9.11170	1.13274	-2.33425	-2.20526	0.00057	-0.00055	-2.00022	0.00002	0.00000	0.00000
0.2	0.00000	0.97439	2.02124	1.11441	-2.30965	-2.00059	0.00043	-0.00055	-0.00022	0.00003	0.00000
0.3	0.00000	-0.32215	1.11028	0.99986	1.11000	-2.30934	-0.00051	2.00042	-0.00055	-0.00020	0.00000
0.4	0.00000	-0.00043	-0.32233	1.11269	0.00000	1.11076	-0.00035	-2.00051	0.00042	-0.00051	0.00000
0.5	0.00000	0.00000	0.00000	-0.32234	1.11076	0.00000	1.11077	-2.00034	-0.00055	0.00000	0.00000
0.6	0.00000	-0.00001	0.00000	-0.00000	-0.00000	0.00000	0.00000	-0.00000	-0.00000	-0.00000	0.00000
0.7	0.00000	-0.00000	-0.00000	0.00000	-0.00000	-0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.8	0.00000	0.00000	-0.00000	-0.00000	0.00000	-0.00000	-0.00000	1.11442	0.00124	0.97439	0.00000
0.9	0.00000	0.00000	0.00000	-0.00000	-0.00000	0.00000	-0.00000	-0.32422	1.11070	5.11170	0.00000
1.0	0.00000	-0.00000	0.00000	0.00000	-0.00000	0.00182	0.00133	-2.12565	-2.43529	5.79512	0.00000

ϵ_{MM}

$a/l \backslash X/l$	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000										
0.1	-1.00000	-0.12342	0.03659	0.00062	-0.00105	0.00006	0.00002	-0.00000	0.00000	0.00000	0.00000
0.2	0.00000	0.49238	0.01884	0.01246	-0.00145	-0.00023	0.00006	0.00000	-0.00000	0.00000	0.00000
0.3	0.00000	-0.01432	0.49933	0.01871	0.01227	-0.00143	-0.00023	0.00006	0.00000	-0.00000	0.00000
0.4	0.00000	-0.01238	-0.01873	0.50000	0.01878	0.01225	-0.00143	-0.00023	0.00006	0.00000	0.00000
0.5	0.00000	0.00132	-0.01224	-0.01878	0.50000	0.01878	0.01225	-0.00143	-0.00023	0.00005	0.00000
0.6	0.00000	-0.00024	0.00143	-0.01225	-0.01878	0.50000	0.01878	0.01225	-0.00143	-0.00024	0.00000
0.7	0.00000	0.00005	0.00023	0.00143	-0.01225	-0.01878	0.50000	0.01878	0.01224	-0.00132	0.00000
0.8	0.00000	-0.00005	0.00023	0.00143	-0.01225	-0.01878	-0.50000	0.01878	0.01224	-0.00132	0.00000
0.9	0.00000	-0.00000	-0.00006	0.00023	0.00143	-0.01225	-0.01878	-0.50000	0.01873	0.01238	0.00000
1.0	0.00000	0.00000	-0.00000	-0.00006	0.00023	0.00143	-0.01228	-0.01871	0.50067	0.01432	0.00000
	0.00000	0.00000	0.00000	-0.00000	-0.00006	0.00023	0.00145	-0.01246	-0.01884	0.50762	0.00000
	0.00000	0.00000	0.00000	0.00000	-0.00002	-0.00006	0.00105	-0.00062	-0.03659	0.12342	1.00000
											0.00000

ϵ_{yp}

LI=20

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00025	-0.00001	-0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.1	-0.00001	0.00006	0.00000	-0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.2	-0.00000	0.00000	0.00006	0.00000	-0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.3	0.00000	-0.00000	0.00000	0.00006	0.00000	-0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.4	0.00000	0.00000	-0.00000	0.00000	0.00006	0.00000	-0.00000	0.00000	0.00000	0.00000	0.00000
0.5	0.00000	0.00000	0.00000	-0.00000	0.00000	0.00006	0.00000	-0.00000	0.00000	0.00000	0.00000
0.6	0.00000	0.00000	-0.00000	0.00000	-0.00000	0.00000	0.00006	0.00000	-0.00000	0.00000	0.00000
0.7	0.00000	0.00000	0.00000	0.00000	0.00000	-0.00000	0.00000	0.00006	0.00000	-0.00000	0.00000
0.8	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	-0.00000	0.00000	0.00006	0.00000	-0.00000
0.9	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	-0.00000	0.00000	0.00006	-0.00001
1.0	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	-0.00000	-0.00001	0.00025

 ϵ_{MP}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	-0.00615	0.00069	0.00003	-0.00002	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.1	0.00000	0.01282	-0.00232	0.00003	0.00004	-0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.2	0.00000	-0.00221	0.01250	-0.00224	0.00002	0.00004	-0.00000	0.00000	0.00000	0.00000	0.00000
0.3	0.00000	0.00001	-0.00224	0.01250	-0.00224	0.00002	0.00004	-0.00000	0.00000	0.00000	0.00000
0.4	0.00000	0.00004	0.00002	-0.00224	0.01250	-0.00224	0.00002	0.00004	-0.00000	0.00000	0.00000
0.5	0.00000	-0.00000	0.00004	0.00002	-0.00224	0.01250	-0.00224	0.00002	0.00004	-0.00000	0.00000
0.6	0.00000	0.00000	-0.00000	0.00004	0.00002	-0.00224	0.01250	-0.00224	0.00002	0.00004	-0.00000
0.7	0.00000	0.00000	0.00000	-0.00000	0.00004	0.00002	-0.00224	0.01250	-0.00224	0.00001	0.00000
0.8	0.00000	0.00000	0.00000	0.00000	-0.00000	0.00004	0.00002	-0.00224	0.01250	-0.00221	0.00000
0.9	0.00000	0.00000	0.00000	0.00000	0.00000	-0.00000	0.00004	0.00003	-0.00232	0.01282	0.00000
1.0	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	-0.00002	0.00003	0.00069	-0.00615	0.00000

 ϵ_{QP}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000										
	-1.00000	0.17938	-0.00189	-0.00307	0.00038	0.00001	-0.00001	0.00000	0.00000	0.00000	0.00000
0.1	0.00000	0.48391									
		-0.51609	0.02946	0.00613	-0.00123	0.00003	0.00002	-0.00000	0.00000	0.00000	0.00000
0.2	0.00000	-0.02912	0.50000								
			-0.50000	0.02818	0.00598	-0.00119	0.00002	0.00002	-0.00000	0.00000	0.00000
0.3	0.00000	-0.00558	-0.02818	0.50000							
				-0.50000	0.02816	0.00599	-0.00119	0.00002	0.00002	-0.00000	0.00000
0.4	0.00000	0.00116	-0.00598	-0.02816	0.50000						
					-0.50000	0.02816	0.00599	-0.00119	0.00002	0.00002	0.00000
0.5	0.00000	-0.00003	0.00119	-0.00599	-0.02816	0.50000					
						-0.50000	0.02816	0.00599	-0.00119	0.00003	0.00000
0.6	0.00000	-0.00002	-0.00002	0.00119	-0.00599	-0.02816	0.50000				
							-0.50000	0.02816	0.00598	-0.00116	0.00000
0.7	0.00000	0.00000	-0.00002	-0.00002	0.00119	-0.00599	-0.02816	0.50001			
								-0.50000	0.02818	0.00558	0.00000
0.8	0.00000	0.00000	0.00000	-0.00002	-0.00002	0.00119	-0.00598	-0.02818	0.50000		
									-0.50000	0.02912	0.00000
0.9	0.00000	0.00000	0.00000	0.00000	-0.00002	-0.00003	0.00123	-0.00613	-0.02946	0.51609	
										-0.48391	0.00000
1.0	0.00000	0.00000	0.00000	0.00000	0.00001	-0.00001	-0.00038	0.00307	0.00189	-0.17938	1.00000
											0.00000

ϵ_{ym}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00250	-0.00045	0.00000	0.00001	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.1	0.00017	0.00001	-0.00015	0.00002	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.2	-0.00006	0.00016	0.00000	-0.00015	0.00002	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000
0.3	0.00000	-0.00002	0.00015	0.00000	-0.00015	0.00002	0.00000	0.00000	0.00000	0.00000	0.00000
0.4	0.00000	0.00000	-0.00002	0.00015	0.00000	-0.00015	0.00002	0.00000	0.00000	0.00000	0.00000
0.5	0.00000	0.00000	0.00000	-0.00002	0.00015	0.00000	-0.00015	0.00002	0.00000	0.00000	0.00000
0.6	0.00000	0.00000	0.00000	0.00000	-0.00002	0.00015	0.00000	-0.00015	0.00002	0.00000	0.00000
0.7	0.00000	0.00000	0.00000	0.00000	0.00000	-0.00002	0.00015	0.00000	-0.00015	0.00002	-0.00000
0.8	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	-0.00002	0.00015	0.00000	-0.00015	0.00000
0.9	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	-0.00002	0.00015	-0.00001	-0.00017
1.0	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	0.00000	-0.00001	-0.00000	0.00045	-0.00250

ϵ_{QM}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000	4.92240	-0.55445	-0.02770	0.01328	-0.00099	-0.00013	0.00003	-0.00000	0.00000	0.00000
0.1	0.00000	9.98111	0.68176	-0.25960	0.01675	0.00007	-0.00063	0.00002	0.00001	-0.00000	0.00000
0.2	0.00000	0.59160	10.00301	0.66837	-0.25951	0.01689	0.00003	-0.00053	0.00002	0.00001	0.00000
0.3	0.00000	-0.24945	0.66671	9.99992	0.66743	-0.25833	0.01687	0.00003	-0.00063	0.00002	0.00000
0.4	0.00000	0.01726	-0.25032	0.66740	10.00001	0.66741	-0.25833	0.01687	-0.00063	-0.00061	0.00000
0.5	0.00000	0.00252	0.01689	-0.25033	0.66741	10.00001	0.66741	-0.25833	0.01689	0.00262	0.00000
0.6	0.00000	-0.00261	0.00002	0.01687	-0.25932	0.66741	10.00002	0.66742	-0.25832	0.01726	0.00000
0.7	0.00000	0.00002	-0.00053	0.00000	0.01687	-0.25833	0.66743	9.99993	0.66671	-0.24945	0.00000
0.8	0.00000	0.00001	0.00000	-0.00053	0.00001	0.01686	-0.25831	0.66636	10.00001	0.59160	0.00000
0.9	0.00000	-0.00000	0.00001	0.00002	-0.00252	0.00007	0.01575	-0.25830	0.68176	9.98111	0.00000
1.0	0.00000	0.00000	-0.00000	0.00000	-0.00013	-0.00099	0.01328	-0.02770	-0.55445	4.92240	0.00000

ϵ_{MM}

a/l \ X/l	0.0	0.1	0.2	0.3	0.4	0.5	0.6	0.7	0.8	0.9	1.0
0.0	0.00000										
0.1	-1.00000	-0.06674	0.02583	-0.00169	-0.00028	0.00006	-0.00000	0.00000	0.00000	0.00000	0.00000
0.2	0.00000	0.49777	-0.50223	0.02789	0.00606	-0.00119	0.00002	0.00002	-0.00000	0.00000	0.00000
0.3	0.00000	-0.02617	0.49967	-0.50033	0.02816	0.00599	-0.00119	0.00002	0.00002	-0.00000	0.00000
0.4	0.00000	-0.00617	-0.02812	0.50000	-0.02816	0.00599	-0.00119	0.00002	0.00002	-0.00000	0.00000
0.5	0.00000	0.00117	-0.00598	-0.02816	0.50000	-0.02816	0.00599	-0.00119	0.00002	0.00002	0.00000
0.6	0.00000	-0.00002	0.00119	-0.00599	-0.02816	0.50000	-0.02816	0.00599	-0.00119	0.00002	0.00000
0.7	0.00000	-0.00002	-0.00002	0.00119	-0.00599	-0.02816	0.50000	-0.02816	0.00598	-0.00117	0.00000
0.8	0.00000	0.00000	-0.00002	-0.00002	0.00119	-0.00599	-0.02816	0.50000	0.02816	0.00598	0.00000
0.9	0.00000	0.00000	0.00000	-0.00002	-0.00002	0.00119	-0.00599	-0.02816	0.02812	0.00617	0.00000
1.0	0.00000	0.00000	0.00000	0.00000	0.00000	-0.00006	0.00028	0.00169	-0.02583	0.06674	1.00000

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