

ANEXOS

RESULTADOS PROGRAMA A3E

RESULTADOS PROGRAMA A3S

RESULTADOS PROGRAMA SAP2000

RESULTADOS PROGRAMA PCACOL

RESULTADOS ALIGERADOS

PLANOS

ANALISIS SISMICO DE ESTRUCTURA DE 5 NIVELES

{A3se} - versi3n 1a - H. Scaletti (1995)

5 pisos
7 p3rticos
4 tipo(s)

Alturas de los Entrepisos:

3.75 3.25 3.25 3.25 3.25

Fuerzas y Excentricidades en Cada Nivel:

| nivel | xo | yo | Fx | Fy | ex | ey |
|-------|------|------|-------|-------|------|------|
| 5 | 7.65 | 7.00 | 38.69 | 38.69 | 1.53 | 1.40 |
| 4 | 7.65 | 7.00 | 49.68 | 49.68 | 1.53 | 1.40 |
| 3 | 7.65 | 7.00 | 37.72 | 37.72 | 1.53 | 1.40 |
| 2 | 7.65 | 7.00 | 25.76 | 25.76 | 1.53 | 1.40 |
| 1 | 7.65 | 7.00 | 14.07 | 14.07 | 1.53 | 1.40 |

E = 2.00E+06
G = 8.00E+05
Gm = 8.00E+05

Factor de reducci3n de rigideces en vigas: .70
Brazos r3gidos reducidos en γ de peralte de viga

Tipo y Ubicaci3n de Cada P3rtico:

| p3rtico | tipo | xi | yi | alfa |
|---------|------|-------|-------|-------|
| 1 | 1 | 15.15 | .00 | 90.00 |
| 2 | 2 | 10.15 | .00 | 90.00 |
| 3 | 2 | 5.15 | .00 | 90.00 |
| 4 | 1 | .15 | .00 | 90.00 |
| A | 3 | .00 | .13 | .00 |
| B | 4 | .00 | 7.00 | .00 |
| C | 3 | .00 | 13.88 | .00 |

Pórtico tipo 1

2 vano(s)
5 piso(s)

Luces de las Vigas:

6.65 6.65

Dimensiones de las Vigas:

.30 .70 .30 .70
.30 .70 .30 .70
.30 .70 .30 .70
.30 .70 .30 .70
.30 .70 .30 .70

Dimensiones de las Columnas:

.30 .70 .30 4.00 .30 .70
.30 .70 .30 4.00 .30 .70
.30 .70 .30 4.00 .30 .70
.30 .70 .30 4.00 .30 .70
.30 .70 .30 4.00 .30 .70

Momentos de Inercia de Columnas y Placas:

2.340E-02 1.600E+00 2.340E-02
2.340E-02 1.600E+00 2.340E-02
2.340E-02 1.600E+00 2.340E-02
2.340E-02 1.600E+00 2.340E-02
2.340E-02 1.600E+00 2.340E-02

Pórtico tipo 2

2 vano(s)
5 piso(s)

Luces de las Vigas:

6.65 6.65

Dimensiones de las Vigas:

.30 .70 .30 .70
.30 .70 .30 .70
.30 .70 .30 .70
.30 .70 .30 .70
.30 .70 .30 .70

Dimensiones de las Columnas:

.30 .70 .35 .75 .30 .70
.30 .70 .35 .75 .30 .70
.30 .70 .35 .75 .30 .70
.30 .70 .35 .75 .30 .70
.30 .70 .35 .75 .30 .70

Momentos de Inercia de Columnas y Placas:

1.320E-02 1.230E-02 1.320E-02
1.570E-02 1.230E-02 1.570E-02
1.570E-02 1.230E-02 1.570E-02
1.570E-02 1.230E-02 1.570E-02
1.570E-02 1.230E-02 1.570E-02

Pértico tipo 3

3 vano(s)
5 piso(s)

Luces de las Vigas:

3.90 5.00 3.90

Dimensiones de las Vigas:

| | | | | | |
|-----|-----|-----|-----|-----|-----|
| .25 | .70 | .00 | .00 | .25 | .70 |
| .25 | .70 | .25 | .70 | .25 | .70 |
| .25 | .70 | .25 | .70 | .25 | .70 |
| .25 | .70 | .25 | .70 | .25 | .70 |
| .25 | .70 | .25 | .70 | .25 | .70 |

Dimensiones de las Columnas:

| | | | | | | | |
|-----|------|-----|------|-----|------|-----|------|
| .25 | 2.50 | .25 | .80 | .25 | .80 | .25 | 2.50 |
| .25 | 2.50 | .25 | 1.30 | .25 | 1.30 | .25 | 2.50 |
| .25 | 2.50 | .25 | 1.30 | .25 | 1.30 | .25 | 2.50 |
| .25 | 2.50 | .25 | 1.30 | .25 | 1.30 | .25 | 2.50 |
| .25 | 2.50 | .25 | 1.30 | .25 | 1.30 | .25 | 2.50 |

Momentos de Inercia de Columnas y Placas:

| | | | |
|-----------|-----------|-----------|-----------|
| 4.730E-01 | 1.672E-02 | 1.672E-02 | 4.730E-01 |
| 4.730E-01 | 4.680E-02 | 4.680E-02 | 4.730E-01 |
| 4.730E-01 | 4.680E-02 | 4.680E-02 | 4.730E-01 |
| 4.730E-01 | 4.680E-02 | 4.680E-02 | 4.730E-01 |
| 4.730E-01 | 4.680E-02 | 4.680E-02 | 4.730E-01 |

Pértico tipo 4

3 vano(s)
5 piso(s)

Luces de las Vigas:

5.00 5.00 5.00

Dimensiones de las Vigas:

| | | | | | |
|-----|-----|-----|-----|-----|-----|
| .25 | .60 | .25 | .60 | .25 | .60 |
| .25 | .60 | .25 | .60 | .25 | .60 |
| .25 | .60 | .25 | .60 | .25 | .60 |
| .25 | .60 | .25 | .60 | .25 | .60 |
| .25 | .60 | .25 | .60 | .25 | .60 |

Dimensiones de las Columnas:

| | | | | | | | |
|------|-----|-----|-----|-----|-----|------|-----|
| 4.00 | .30 | .75 | .35 | .75 | .35 | 4.00 | .30 |
| 4.00 | .30 | .75 | .35 | .75 | .35 | 4.00 | .30 |
| 4.00 | .30 | .75 | .35 | .75 | .35 | 4.00 | .30 |
| 4.00 | .30 | .75 | .35 | .75 | .35 | 4.00 | .30 |
| 4.00 | .30 | .75 | .35 | .75 | .35 | 4.00 | .30 |

Efectos Globales - Sismo en la Dirección X

Desplazamientos de Cada Nivel

| nivel | x | y | r |
|-------|-----------|-----------|-----------|
| 5 | 9.595E-03 | 5.186E-10 | 1.471E-04 |
| 4 | 7.693E-03 | 4.150E-10 | 1.163E-04 |
| 3 | 5.596E-03 | 3.009E-10 | 8.281E-05 |
| 2 | 3.357E-03 | 1.799E-10 | 4.854E-05 |
| 1 | 1.315E-03 | 7.024E-11 | 1.857E-05 |

Distorsiones de los Entrepisos

| nivel | x | y | r |
|-------|-----------|-----------|-----------|
| 5 | 1.902E-03 | 1.036E-10 | 3.083E-05 |
| 4 | 2.097E-03 | 1.141E-10 | 3.349E-05 |
| 3 | 2.239E-03 | 1.210E-10 | 3.428E-05 |
| 2 | 2.042E-03 | 1.096E-10 | 2.996E-05 |
| 1 | 1.315E-03 | 7.024E-11 | 1.857E-05 |

Fuerzas Concentradas

| nivel | x | y | r |
|-------|-----------|-----------|-----------|
| 5 | 3.869E+01 | 0.000E+00 | 5.417E+01 |
| 4 | 4.968E+01 | 0.000E+00 | 6.955E+01 |
| 3 | 3.772E+01 | 0.000E+00 | 5.281E+01 |
| 2 | 2.576E+01 | 0.000E+00 | 3.606E+01 |
| 1 | 1.407E+01 | 0.000E+00 | 1.970E+01 |

Cortantes Totales en Cada Nivel

| nivel | x | y | r |
|-------|-----------|-----------|-----------|
| 5 | 3.869E+01 | 0.000E+00 | 5.417E+01 |
| 4 | 8.837E+01 | 0.000E+00 | 1.237E+02 |
| 3 | 1.261E+02 | 0.000E+00 | 1.765E+02 |
| 2 | 1.518E+02 | 0.000E+00 | 2.126E+02 |
| 1 | 1.659E+02 | 0.000E+00 | 2.323E+02 |

Efectos Globales - Sismo en la Dirección Y

Desplazamientos de Cada Nivel

| nivel | x | y | r |
|-------|-----------|-----------|-----------|
| 5 | 4.194E-10 | 9.759E-03 | 1.608E-04 |
| 4 | 3.363E-10 | 7.753E-03 | 1.271E-04 |
| 3 | 2.446E-10 | 5.513E-03 | 9.050E-05 |
| 2 | 1.467E-10 | 3.226E-03 | 5.304E-05 |
| 1 | 5.749E-11 | 1.233E-03 | 2.030E-05 |

Distorsiones de los Entrepisos

| nivel | x | y | r |
|-------|-----------|-----------|-----------|
| 5 | 8.314E-11 | 2.007E-03 | 3.369E-05 |
| 4 | 9.167E-11 | 2.239E-03 | 3.660E-05 |
| 3 | 9.786E-11 | 2.288E-03 | 3.746E-05 |
| 2 | 8.924E-11 | 1.992E-03 | 3.275E-05 |
| 1 | 5.749E-11 | 1.233E-03 | 2.030E-05 |

Fuerzas Concentradas

| nivel | x | y | r |
|-------|-----------|-----------|-----------|
| 5 | 0.000E+00 | 3.869E+01 | 5.920E+01 |
| 4 | 0.000E+00 | 4.968E+01 | 7.601E+01 |
| 3 | 0.000E+00 | 3.772E+01 | 5.771E+01 |
| 2 | 0.000E+00 | 2.576E+01 | 3.941E+01 |
| 1 | 0.000E+00 | 1.407E+01 | 2.153E+01 |

Cortantes Totales en Cada Nivel

| nivel | x | y | r |
|-------|-----------|-----------|-----------|
| 5 | 0.000E+00 | 3.869E+01 | 5.920E+01 |
| 4 | 0.000E+00 | 8.837E+01 | 1.352E+02 |
| 3 | 0.000E+00 | 1.261E+02 | 1.929E+02 |
| 2 | 0.000E+00 | 1.518E+02 | 2.323E+02 |
| 1 | 0.000E+00 | 1.659E+02 | 2.539E+02 |

Efectos en el Pórtico del Eje 1

Sismo en la Dirección Y

Desplazamientos, Distorsiones, Fuerzas y Cortes en Cada Nivel

| nivel | u | ë | F | V |
|-------|--------|--------|--------|--------|
| 5 | .01097 | .00226 | 12.605 | 12.605 |
| 4 | .00871 | .00251 | 28.622 | 40.118 |
| 3 | .00619 | .00257 | 20.409 | 60.106 |
| 2 | .00362 | .00224 | 15.555 | 75.560 |
| 1 | .00139 | .00139 | 9.820 | 85.380 |

Momentos Flectores y Cortes en las Vigas

| viga | niv | Mi | Mj | V |
|------|-----|--------|--------|-------|
| 1 | 5 | 11.814 | 12.934 | 5.755 |
| 2 | 5 | 12.934 | 11.814 | 5.755 |
| 1 | 4 | 14.490 | 14.851 | 6.823 |
| 2 | 4 | 14.851 | 14.490 | 6.823 |
| 1 | 3 | 15.492 | 15.861 | 7.291 |
| 2 | 3 | 15.861 | 15.492 | 7.291 |
| 1 | 2 | 14.903 | 15.135 | 6.986 |
| 2 | 2 | 15.135 | 14.903 | 6.986 |
| 1 | 1 | 11.226 | 11.177 | 5.210 |
| 2 | 1 | 11.177 | 11.226 | 5.210 |

Fuerzas Axiales, Momentos y Cortes en las Columnas

| col. | nivel | N | Mt | Mb | V |
|------|-------|--------|---------|---------|--------|
| 1 | 5 | 4.586 | 10.947 | 5.965 | 5.204 |
| 1 | 4 | 10.023 | 7.461 | 6.640 | 4.339 |
| 1 | 3 | 15.833 | 7.715 | 8.582 | 5.013 |
| 1 | 2 | 21.400 | 5.231 | 9.548 | 4.541 |
| 1 | 1 | 25.551 | .896 | 13.266 | 3.772 |
| 2 | 5 | .000 | 39.101 | 39.701 | 3.340 |
| 2 | 4 | .000 | 80.689 | 29.212 | 31.695 |
| 2 | 3 | .000 | 33.596 | 138.275 | 50.164 |
| 2 | 2 | .000 | 92.760 | 304.972 | 66.481 |
| 2 | 1 | .000 | 270.746 | 561.887 | 77.836 |

| | | | | | |
|---|---|--------|--------|--------|-------|
| 3 | 5 | 4.586 | 10.947 | 5.965 | 5.204 |
| 3 | 4 | 10.023 | 7.461 | 6.640 | 4.339 |
| 3 | 3 | 15.833 | 7.715 | 8.582 | 5.013 |
| 3 | 2 | 21.400 | 5.231 | 9.548 | 4.541 |
| 3 | 1 | 25.551 | .896 | 13.266 | 3.772 |

Efectos en el Pórtico del Eje 4

Sismo en la Dirección Y

Desplazamientos, Distorsiones, Fuerzas y Cortes en Cada Nivel

| nivel | u | e | F | V |
|-------|--------|--------|--------|--------|
| 5 | .01097 | .00226 | 12.605 | 12.605 |
| 4 | .00871 | .00251 | 28.622 | 40.118 |
| 3 | .00619 | .00257 | 20.409 | 60.106 |
| 2 | .00362 | .00224 | 15.555 | 75.560 |
| 1 | .00139 | .00139 | 9.820 | 85.380 |

Momentos Flectores y Cortes en las Vigas

| viga | niv | Mi | Mj | V |
|------|-----|--------|--------|-------|
| 1 | 5 | 11.814 | 12.934 | 5.755 |
| 2 | 5 | 12.934 | 11.814 | 5.755 |
| 1 | 4 | 14.490 | 14.851 | 6.823 |
| 2 | 4 | 14.851 | 14.490 | 6.823 |
| 1 | 3 | 15.492 | 15.861 | 7.291 |
| 2 | 3 | 15.861 | 15.492 | 7.291 |
| 1 | 2 | 14.903 | 15.135 | 6.986 |
| 2 | 2 | 15.135 | 14.903 | 6.986 |
| 1 | 1 | 11.226 | 11.177 | 5.210 |
| 2 | 1 | 11.177 | 11.226 | 5.210 |

Fuerzas Axiales, Momentos y Cortes en las Columnas

| col. | nivel | N | Mt | Mb | V |
|------|-------|--------|---------|---------|--------|
| 1 | 5 | 4.586 | 10.947 | 5.965 | 5.204 |
| 1 | 4 | 10.023 | 7.461 | 6.640 | 4.339 |
| 1 | 3 | 15.833 | 7.715 | 8.582 | 5.013 |
| 1 | 2 | 21.400 | 5.231 | 9.548 | 4.541 |
| 1 | 1 | 25.551 | .896 | 13.266 | 3.772 |
| 2 | 5 | .000 | 39.101 | 39.701 | 3.340 |
| 2 | 4 | .000 | 80.690 | 29.212 | 31.695 |
| 2 | 3 | .000 | 33.596 | 138.275 | 50.164 |
| 2 | 2 | .000 | 92.760 | 304.972 | 66.481 |
| 2 | 1 | .000 | 270.746 | 561.887 | 77.836 |
| 3 | 5 | 4.586 | 10.947 | 5.965 | 5.204 |
| 3 | 4 | 10.023 | 7.461 | 6.640 | 4.339 |
| 3 | 3 | 15.833 | 7.715 | 8.582 | 5.013 |
| 3 | 2 | 21.400 | 5.231 | 9.548 | 4.541 |
| 3 | 1 | 25.551 | .896 | 13.266 | 3.772 |

Efectos en el Pórtico del Eje 2

Sismo en la Dirección Y

Desplazamientos, Distorsiones, Fuerzas y Cortes en Cada Nivel

| nivel | u | ë | F | V |
|-------|--------|--------|-------|-------|
| 5 | .01016 | .00209 | 9.586 | 9.586 |
| 4 | .00807 | .00233 | .786 | 8.863 |
| 3 | .00574 | .00238 | 1.088 | 9.930 |
| 2 | .00336 | .00207 | .942 | 9.062 |
| 1 | .00128 | .00128 | 1.842 | 7.264 |

Momentos Flectores y Cortes en las Vigas

| viga | niv | Mi | Mj | V |
|------|-----|-------|-------|-------|
| 1 | 5 | 5.309 | 4.810 | 1.708 |
| 2 | 5 | 4.810 | 5.309 | 1.708 |
| 1 | 4 | 7.356 | 7.030 | 2.428 |
| 2 | 4 | 7.030 | 7.356 | 2.428 |
| 1 | 3 | 7.829 | 7.407 | 2.571 |
| 2 | 3 | 7.407 | 7.829 | 2.571 |
| 1 | 2 | 7.547 | 7.159 | 2.482 |
| 2 | 2 | 7.159 | 7.547 | 2.482 |
| 1 | 1 | 5.827 | 5.472 | 1.907 |
| 2 | 1 | 5.472 | 5.827 | 1.907 |

Fuerzas Axiales, Momentos y Cortes en las Columnas

| col. | nivel | N | Mt | Mb | V |
|------|-------|-------|-------|-------|-------|
| 1 | 5 | 1.442 | 5.013 | 2.774 | 2.396 |
| 1 | 4 | 3.493 | 4.172 | 3.401 | 2.330 |
| 1 | 3 | 5.664 | 3.992 | 4.593 | 2.640 |
| 1 | 2 | 7.760 | 2.540 | 5.287 | 2.407 |
| 1 | 1 | 9.370 | .241 | 8.306 | 2.274 |
| 2 | 5 | .000 | 9.156 | 6.424 | 4.794 |
| 2 | 4 | .000 | 6.953 | 6.708 | 4.203 |
| 2 | 3 | .000 | 7.388 | 7.727 | 4.651 |
| 2 | 2 | .000 | 5.896 | 7.916 | 4.250 |
| 2 | 1 | .000 | 2.499 | 7.686 | 2.716 |
| 3 | 5 | 1.442 | 5.013 | 2.774 | 2.396 |
| 3 | 4 | 3.493 | 4.172 | 3.401 | 2.330 |
| 3 | 3 | 5.664 | 3.992 | 4.593 | 2.640 |
| 3 | 2 | 7.760 | 2.540 | 5.287 | 2.407 |
| 3 | 1 | 9.370 | .241 | 8.306 | 2.274 |

Efectos en el Pórtico del Eje 3

Sismo en la Dirección Y

Desplazamientos, Distorsiones, Fuerzas y Cortes en Cada Nivel

| nivel | u | ë | F | V |
|-------|--------|--------|-------|-------|
| 5 | .01016 | .00209 | 9.586 | 9.586 |
| 4 | .00807 | .00233 | .786 | 8.863 |
| 3 | .00574 | .00238 | 1.088 | 9.930 |
| 2 | .00336 | .00207 | .942 | 9.062 |
| 1 | .00128 | .00128 | 1.842 | 7.264 |

Momentos Flectores y Cortes en las Vigas

| viga | niv | Mi | Mj | V |
|------|-----|-------|-------|-------|
| 1 | 5 | 5.309 | 4.810 | 1.708 |
| 2 | 5 | 4.810 | 5.309 | 1.708 |
| 1 | 4 | 7.356 | 7.030 | 2.428 |
| 2 | 4 | 7.030 | 7.356 | 2.428 |
| 1 | 3 | 7.829 | 7.407 | 2.571 |
| 2 | 3 | 7.407 | 7.829 | 2.571 |
| 1 | 2 | 7.547 | 7.159 | 2.482 |
| 2 | 2 | 7.159 | 7.547 | 2.482 |
| 1 | 1 | 5.827 | 5.472 | 1.907 |
| 2 | 1 | 5.472 | 5.827 | 1.907 |

Fuerzas Axiales, Momentos y Cortes en las Columnas

| col. | nivel | N | Mt | Mb | V |
|------|-------|-------|-------|-------|-------|
| 1 | 5 | 1.442 | 5.013 | 2.774 | 2.396 |
| 1 | 4 | 3.493 | 4.172 | 3.401 | 2.330 |
| 1 | 3 | 5.664 | 3.992 | 4.593 | 2.640 |
| 1 | 2 | 7.760 | 2.540 | 5.287 | 2.407 |
| 1 | 1 | 9.370 | .241 | 8.306 | 2.274 |
| 2 | 5 | .000 | 9.156 | 6.424 | 4.794 |
| 2 | 4 | .000 | 6.953 | 6.708 | 4.203 |
| 2 | 3 | .000 | 7.388 | 7.727 | 4.651 |
| 2 | 2 | .000 | 5.896 | 7.916 | 4.250 |
| 2 | 1 | .000 | 2.499 | 7.686 | 2.716 |
| 3 | 5 | 1.442 | 5.013 | 2.774 | 2.396 |
| 3 | 4 | 3.493 | 4.172 | 3.401 | 2.330 |
| 3 | 3 | 5.664 | 3.992 | 4.593 | 2.640 |
| 3 | 2 | 7.760 | 2.540 | 5.287 | 2.407 |
| 3 | 1 | 9.370 | .241 | 8.306 | 2.274 |

Efectos en el Pórtico del Eje A

Sismo en la Dirección X

Desplazamientos, Distorsiones, Fuerzas y Cortes en Cada Nivel

| nivel | u | ë | F | V |
|-------|--------|--------|--------|--------|
| 5 | .01061 | .00211 | 18.143 | 18.143 |
| 4 | .00849 | .00233 | 28.183 | 46.325 |
| 3 | .00617 | .00247 | 20.255 | 65.864 |
| 2 | .00369 | .00225 | 14.522 | 79.777 |
| 1 | .00144 | .00144 | 8.652 | 87.932 |

Momentos Flectores y Cortes en las Vigas

| viga | niv | Mi | Mj | V |
|------|-----|--------|--------|--------|
| 1 | 5 | 12.149 | 10.485 | 10.060 |
| 3 | 5 | 10.485 | 12.149 | 10.060 |
| 1 | 4 | 17.327 | 15.659 | 16.493 |
| 2 | 4 | 14.023 | 14.023 | 7.580 |
| 3 | 4 | 15.659 | 17.327 | 16.493 |

| | | | | |
|---|---|--------|--------|--------|
| 1 | 3 | 21.446 | 20.288 | 20.867 |
| 2 | 3 | 15.514 | 15.514 | 8.386 |
| 3 | 3 | 20.288 | 21.446 | 20.867 |
| 1 | 2 | 22.755 | 21.643 | 22.199 |
| 2 | 2 | 14.463 | 14.463 | 7.818 |
| 3 | 2 | 21.643 | 22.755 | 22.199 |
| 1 | 1 | 18.632 | 17.953 | 18.293 |
| 2 | 1 | 10.807 | 10.807 | 5.841 |
| 3 | 1 | 17.953 | 18.632 | 18.293 |

Fuerzas Axiales, Momentos y Cortes en las Columnas

| col. | nivel | N | Mt | Mb | V |
|------|-------|--------|--------|---------|--------|
| 1 | 5 | 6.808 | 16.889 | 7.520 | 3.757 |
| 1 | 4 | 17.583 | 30.475 | 6.061 | 10.738 |
| 1 | 3 | 31.215 | 28.048 | 39.009 | 20.138 |
| 1 | 2 | 45.718 | 6.590 | 93.080 | 27.085 |
| 1 | 1 | 57.668 | 66.037 | 195.498 | 34.630 |
| 2 | 5 | 6.808 | 9.663 | 8.452 | 5.574 |
| 2 | 4 | 11.735 | 23.235 | 17.671 | 12.586 |
| 2 | 3 | 18.899 | 20.502 | 21.295 | 12.861 |
| 2 | 2 | 27.371 | 17.238 | 24.424 | 12.816 |
| 2 | 1 | 34.815 | 6.282 | 28.728 | 9.336 |
| 3 | 5 | 6.808 | 9.663 | 8.452 | 5.574 |
| 3 | 4 | 11.735 | 23.235 | 17.671 | 12.586 |
| 3 | 3 | 18.899 | 20.502 | 21.295 | 12.861 |
| 3 | 2 | 27.371 | 17.238 | 24.424 | 12.816 |
| 3 | 1 | 34.815 | 6.282 | 28.728 | 9.336 |
| 4 | 5 | 6.808 | 16.889 | 7.520 | 3.757 |
| 4 | 4 | 17.583 | 30.475 | 6.061 | 10.738 |
| 4 | 3 | 31.215 | 28.048 | 39.009 | 20.138 |
| 4 | 2 | 45.718 | 6.590 | 93.080 | 27.085 |
| 4 | 1 | 57.668 | 66.037 | 195.498 | 34.630 |

Efectos en el Pórtico del Eje C

Sismo en la Dirección X

Desplazamientos, Distorsiones, Fuerzas y Cortes en Cada Nivel

| nivel | u | ē | F | V |
|-------|--------|--------|--------|--------|
| 5 | .01061 | .00211 | 18.143 | 18.143 |
| 4 | .00849 | .00233 | 28.183 | 46.325 |
| 3 | .00617 | .00247 | 20.255 | 65.864 |
| 2 | .00369 | .00225 | 14.522 | 79.777 |
| 1 | .00144 | .00144 | 8.652 | 87.932 |

Momentos Flectores y Cortes en las Vigas

| viga | niv | Mi | Mj | V |
|------|-----|--------|--------|--------|
| 1 | 5 | 12.149 | 10.485 | 10.060 |
| 3 | 5 | 10.485 | 12.149 | 10.060 |
| 1 | 4 | 17.327 | 15.659 | 16.493 |
| 2 | 4 | 14.023 | 14.023 | 7.580 |
| 3 | 4 | 15.659 | 17.327 | 16.493 |

| | | | | |
|---|---|--------|--------|--------|
| 1 | 3 | 21.446 | 20.288 | 20.867 |
| 2 | 3 | 15.514 | 15.514 | 8.386 |
| 3 | 3 | 20.288 | 21.446 | 20.867 |
| 1 | 2 | 22.755 | 21.643 | 22.199 |
| 2 | 2 | 14.463 | 14.463 | 7.818 |
| 3 | 2 | 21.643 | 22.755 | 22.199 |
| 1 | 1 | 18.632 | 17.953 | 18.293 |
| 2 | 1 | 10.807 | 10.807 | 5.841 |
| 3 | 1 | 17.953 | 18.632 | 18.293 |

Fuerzas Axiales, Momentos y Cortes en las Columnas

| col. | nivel | N | Mt | Mb | V |
|------|-------|--------|--------|---------|--------|
| 1 | 5 | 6.808 | 16.889 | 7.520 | 3.757 |
| 1 | 4 | 17.583 | 30.475 | 6.061 | 10.738 |
| 1 | 3 | 31.215 | 28.048 | 39.009 | 20.138 |
| 1 | 2 | 45.718 | 6.590 | 93.080 | 27.085 |
| 1 | 1 | 57.668 | 66.037 | 195.498 | 34.630 |
| 2 | 5 | 6.808 | 9.663 | 8.452 | 5.574 |
| 2 | 4 | 11.735 | 23.235 | 17.671 | 12.586 |
| 2 | 3 | 18.899 | 20.502 | 21.295 | 12.861 |
| 2 | 2 | 27.371 | 17.238 | 24.424 | 12.816 |
| 2 | 1 | 34.815 | 6.282 | 28.728 | 9.336 |
| 3 | 5 | 6.808 | 9.663 | 8.452 | 5.574 |
| 3 | 4 | 11.735 | 23.235 | 17.671 | 12.586 |
| 3 | 3 | 18.899 | 20.502 | 21.295 | 12.861 |
| 3 | 2 | 27.371 | 17.238 | 24.424 | 12.816 |
| 3 | 1 | 34.815 | 6.282 | 28.728 | 9.336 |
| 4 | 5 | 6.808 | 16.889 | 7.520 | 3.757 |
| 4 | 4 | 17.583 | 30.475 | 6.061 | 10.738 |
| 4 | 3 | 31.215 | 28.048 | 39.009 | 20.138 |
| 4 | 2 | 45.718 | 6.590 | 93.080 | 27.085 |
| 4 | 1 | 57.668 | 66.037 | 195.498 | 34.630 |

Efectos en el Pórtico del Eje B

Sismo en la Dirección X

Desplazamientos, Distorsiones, Fuerzas y Cortes en Cada Nivel

| nivel | u | ē | F | V |
|-------|--------|--------|-------|-------|
| 5 | .00960 | .00190 | 6.462 | 6.462 |
| 4 | .00769 | .00210 | .837 | 5.625 |
| 3 | .00560 | .00224 | 1.181 | 6.806 |
| 2 | .00336 | .00204 | .430 | 6.376 |
| 1 | .00132 | .00132 | 1.484 | 4.892 |

Momentos Flectores y Cortes en las Vigas

| viga | niv | Mi | Mj | V |
|------|-----|-------|-------|-------|
| 1 | 5 | 2.999 | 2.208 | 1.114 |
| 2 | 5 | 1.597 | 1.597 | .687 |
| 3 | 5 | 2.208 | 2.999 | 1.114 |

| | | | | |
|---|---|-------|-------|-------|
| 1 | 4 | 4.017 | 3.405 | 1.588 |
| 2 | 4 | 2.982 | 2.982 | 1.282 |
| 3 | 4 | 3.405 | 4.017 | 1.588 |
| 1 | 3 | 4.322 | 3.624 | 1.700 |
| 2 | 3 | 3.086 | 3.086 | 1.327 |
| 3 | 3 | 3.624 | 4.322 | 1.700 |
| 1 | 2 | 4.363 | 3.665 | 1.717 |
| 2 | 2 | 3.092 | 3.092 | 1.330 |
| 3 | 2 | 3.665 | 4.363 | 1.717 |
| 1 | 1 | 3.509 | 2.866 | 1.364 |
| 2 | 1 | 2.291 | 2.291 | .986 |
| 3 | 1 | 2.866 | 3.509 | 1.364 |

Fuerzas Axiales, Momentos y Cortes en las Columnas

| col. | nivel | N | Mt | Mb | V |
|------|-------|-------|-------|-------|-------|
| 1 | 5 | .928 | 2.679 | 1.588 | 1.313 |
| 1 | 4 | 2.250 | 1.990 | 1.479 | 1.067 |
| 1 | 3 | 3.666 | 2.372 | 2.343 | 1.451 |
| 1 | 2 | 5.097 | 1.543 | 2.784 | 1.332 |
| 1 | 1 | 6.233 | .344 | 5.196 | 1.477 |
| 2 | 5 | .356 | 3.389 | 2.845 | 1.918 |
| 2 | 4 | .611 | 2.859 | 2.813 | 1.745 |
| 2 | 3 | .923 | 3.178 | 3.168 | 1.952 |
| 2 | 2 | 1.246 | 2.866 | 3.168 | 1.856 |
| 2 | 1 | 1.562 | 1.435 | 2.197 | .969 |
| 3 | 5 | .356 | 3.389 | 2.845 | 1.918 |
| 3 | 4 | .611 | 2.859 | 2.813 | 1.745 |
| 3 | 3 | .923 | 3.178 | 3.168 | 1.952 |
| 3 | 2 | 1.246 | 2.866 | 3.168 | 1.856 |
| 3 | 1 | 1.562 | 1.435 | 2.197 | .969 |
| 4 | 5 | .928 | 2.679 | 1.588 | 1.313 |
| 4 | 4 | 2.250 | 1.990 | 1.479 | 1.067 |
| 4 | 3 | 3.666 | 2.372 | 2.343 | 1.451 |
| 4 | 2 | 5.097 | 1.543 | 2.784 | 1.332 |
| 4 | 1 | 6.233 | .344 | 5.196 | 1.477 |

Analisis Sismico Seudo-Tridimensional de Estructura Aporticada de 5 Pisos

{A3s} - versi6n 1.5d - H. Scaletti (1997)

5 pisos
7 p6rticos
4 tipo(s)

Alturas de los Entrepisos:

3.75 3.25 3.25 3.25 3.25

Inercias en Cada Nivel:

| nivel | xo | yo | masa | Jo |
|-------|------|------|----------|----------|
| 5 | 7.65 | 7.00 | 1.52E+01 | 5.61E+02 |
| 4 | 7.65 | 7.00 | 2.43E+01 | 8.69E+02 |
| 3 | 7.65 | 7.00 | 2.43E+01 | 8.69E+02 |
| 2 | 7.65 | 7.00 | 2.43E+01 | 8.69E+02 |
| 1 | 7.65 | 7.00 | 2.47E+01 | 8.87E+02 |

E = 2.20E+06
G = 8.80E+05
Gm = 8.80E+05

Factor de reducci6n de rigideces en vigas: .70
Brazos r6gidos reducidos en \sim de peralte de viga

Tipo y Ubicaci6n de Cada P6rtico:

| p6rtico | tipo | xi | yi | alfa |
|---------|------|-------|-------|-------|
| 1 | 1 | 15.15 | .00 | 90.00 |
| 2 | 2 | 10.15 | .00 | 90.00 |
| 3 | 2 | 5.15 | .00 | 90.00 |
| 4 | 1 | .15 | .00 | 90.00 |
| A | 3 | .00 | .13 | .00 |
| B | 4 | .00 | 7.00 | .00 |
| C | 3 | .00 | 13.88 | .00 |

An6lisis Din6mico (Superposici6n Modal Espectral)

15 modos (RNC)

Espectro de Pseudo Aceleraciones:

| T | Sa |
|------|------|
| .30 | 1.47 |
| .40 | 1.47 |
| .50 | 1.11 |
| .60 | .89 |
| .80 | .62 |
| 1.00 | .47 |
| 1.20 | .37 |

(interpolaci6n lineal)

Pórtico tipo 1

2 vano(s)
5 piso(s)

Luces de las Vigas:

6.65 6.65

Dimensiones de las Vigas:

.30 .70 .30 .70
.30 .70 .30 .70
.30 .70 .30 .70
.30 .70 .30 .70
.30 .70 .30 .70

Dimensiones de las Columnas:

.30 .70 .30 4.00 .30 .70
.30 .70 .30 4.00 .30 .70
.30 .70 .30 4.00 .30 .70
.30 .70 .30 4.00 .30 .70
.30 .70 .30 4.00 .30 .70

Momentos de Inercia de Columnas y Placas:

2.340E-02 1.600E+00 2.340E-02
2.340E-02 1.600E+00 2.340E-02
2.340E-02 1.600E+00 2.340E-02
2.340E-02 1.600E+00 2.340E-02
2.340E-02 1.600E+00 2.340E-02

Pórtico tipo 2

2 vano(s)
5 piso(s)

Luces de las Vigas:

6.65 6.65

Dimensiones de las Vigas:

.30 .70 .30 .70
.30 .70 .30 .70
.30 .70 .30 .70
.30 .70 .30 .70
.30 .70 .30 .70

Dimensiones de las Columnas:

.30 .70 .35 .75 .30 .70
.30 .70 .35 .75 .30 .70
.30 .70 .35 .75 .30 .70
.30 .70 .35 .75 .30 .70
.30 .70 .35 .75 .30 .70

Momentos de Inercia de Columnas y Placas:

| | | |
|-----------|-----------|-----------|
| 1.320E-02 | 1.230E-02 | 1.320E-02 |
| 1.570E-02 | 1.230E-02 | 1.570E-02 |
| 1.570E-02 | 1.230E-02 | 1.570E-02 |
| 1.570E-02 | 1.230E-02 | 1.570E-02 |
| 1.570E-02 | 1.230E-02 | 1.570E-02 |

Pórtico tipo 3

3 vano(s)
5 piso(s)

Luces de las Vigas:

3.90 5.00 3.90

Dimensiones de las Vigas:

| | | | | | |
|-----|-----|-----|-----|-----|-----|
| .25 | .70 | .00 | .00 | .25 | .70 |
| .25 | .70 | .25 | .70 | .25 | .70 |
| .25 | .70 | .25 | .70 | .25 | .70 |
| .25 | .70 | .25 | .70 | .25 | .70 |
| .25 | .70 | .25 | .70 | .25 | .70 |

Dimensiones de las Columnas:

| | | | | | | | |
|-----|------|-----|------|-----|------|-----|------|
| .25 | 2.50 | .25 | .80 | .25 | .80 | .25 | 2.50 |
| .25 | 2.50 | .25 | 1.30 | .25 | 1.30 | .25 | 2.50 |
| .25 | 2.50 | .25 | 1.30 | .25 | 1.30 | .25 | 2.50 |
| .25 | 2.50 | .25 | 1.30 | .25 | 1.30 | .25 | 2.50 |
| .25 | 2.50 | .25 | 1.30 | .25 | 1.30 | .25 | 2.50 |

Momentos de Inercia de Columnas y Placas:

| | | | |
|-----------|-----------|-----------|-----------|
| 4.730E-01 | 1.672E-02 | 1.672E-02 | 4.730E-01 |
| 4.730E-01 | 4.680E-02 | 4.680E-02 | 4.730E-01 |
| 4.730E-01 | 4.680E-02 | 4.680E-02 | 4.730E-01 |
| 4.730E-01 | 4.680E-02 | 4.680E-02 | 4.730E-01 |
| 4.730E-01 | 4.680E-02 | 4.680E-02 | 4.730E-01 |

Pórtico tipo 4

3 vano(s)
5 piso(s)

Luces de las Vigas:

5.00 5.00 5.00

Dimensiones de las Vigas:

| | | | | | |
|-----|-----|-----|-----|-----|-----|
| .25 | .60 | .25 | .60 | .25 | .60 |
| .25 | .60 | .25 | .60 | .25 | .60 |
| .25 | .60 | .25 | .60 | .25 | .60 |
| .25 | .60 | .25 | .60 | .25 | .60 |
| .25 | .60 | .25 | .60 | .25 | .60 |

Dimensiones de las Columnas:

| | | | | | | | |
|------|-----|-----|-----|-----|-----|------|-----|
| 4.00 | .30 | .75 | .35 | .75 | .35 | 4.00 | .30 |
| 4.00 | .30 | .75 | .35 | .75 | .35 | 4.00 | .30 |
| 4.00 | .30 | .75 | .35 | .75 | .35 | 4.00 | .30 |
| 4.00 | .30 | .75 | .35 | .75 | .35 | 4.00 | .30 |
| 4.00 | .30 | .75 | .35 | .75 | .35 | 4.00 | .30 |

Modo 1

T = .3632 seg
 f = 2.7530 Hertz
 w = 17.298 rad/seg

Sa = 1.472E+00
 Sv = 8.510E-02
 Sd = 4.920E-03

Vector Característico:

| u | v | é |
|---------|---------|---------|
| .000002 | .156244 | .000000 |
| .000001 | .123690 | .000000 |
| .000001 | .087450 | .000000 |
| .000001 | .050726 | .000000 |
| .000000 | .019165 | .000000 |

Factores de Participación:

| | | |
|---------|----------|---------|
| .000095 | 9.206614 | .000004 |
|---------|----------|---------|

Modo 3

T = .2265 seg
 f = 4.4145 Hertz
 w = 27.737 rad/seg

Sa = 1.472E+00
 Sv = 5.307E-02
 Sd = 1.913E-03

Vector Característico:

| u | v | é |
|---------|---------|---------|
| .000000 | .000000 | .026058 |
| .000000 | .000000 | .020507 |
| .000000 | .000000 | .014503 |
| .000000 | .000000 | .008421 |
| .000000 | .000000 | .003182 |

Factores de Participación:

| | | |
|---------|----------|-----------|
| .000000 | -.000001 | 55.198460 |
|---------|----------|-----------|

Modo 2

T = .3625 seg
 f = 2.7589 Hertz
 w = 17.335 rad/seg

Sa = 1.472E+00
 Sv = 8.492E-02
 Sd = 4.899E-03

Vector Característico:

| u | v | é |
|---------|----------|---------|
| .154015 | -.000002 | .000000 |
| .123091 | -.000001 | .000000 |
| .089076 | -.000001 | .000000 |
| .053026 | -.000001 | .000000 |
| .020560 | .000000 | .000000 |

Factores de Participación:

| | | |
|----------|----------|---------|
| 9.287882 | -.000094 | .000000 |
|----------|----------|---------|

Modo 4

T = .0989 seg
 f = 10.1062 Hertz
 w = 63.499 rad/seg

Sa = 1.472E+00
 Sv = 2.318E-02
 Sd = 3.651E-04

Vector Característico:

| u | v | é |
|----------|---------|---------|
| .145977 | .000000 | .000000 |
| .013887 | .000000 | .000000 |
| -.089288 | .000000 | .000000 |
| -.119926 | .000000 | .000000 |
| -.072058 | .000000 | .000000 |

Factores de Participación:

| | | |
|-----------|----------|---------|
| -4.298129 | -.000001 | .000000 |
|-----------|----------|---------|

Modo 5

T = .0914 seg
f = 10.9438 Hertz
w = 68.762 rad/seg

Sa = 1.472E+00
Sv = 2.141E-02
Sd = 3.113E-04

Vector Característico:

| u | v | é |
|---------|----------|---------|
| .000000 | -.140144 | .000000 |
| .000000 | -.014424 | .000000 |
| .000000 | .090194 | .000000 |
| .000000 | .121900 | .000000 |
| .000000 | .074682 | .000000 |

Factores de Participación:

-.000001 4.508702 .000002

Modo 7

T = .0473 seg
f = 21.1590 Hertz
w = 132.946 rad/seg

Sa = 1.472E+00
Sv = 1.107E-02
Sd = 8.328E-05

Vector Característico:

| u | v | é |
|----------|---------|---------|
| -.115687 | .000000 | .000000 |
| .079814 | .000000 | .000000 |
| .084173 | .000000 | .000000 |
| -.068250 | .000000 | .000000 |
| -.120081 | .000000 | .000000 |

Factores de Participación:

-2.410133 -.000001 .000000

Modo 6

T = .0579 seg
f = 17.2769 Hertz
w = 108.554 rad/seg

Sa = 1.472E+00
Sv = 1.356E-02
Sd = 1.249E-04

Vector Característico:

| u | v | é |
|---------|---------|----------|
| .000000 | .000000 | -.023415 |
| .000000 | .000000 | -.001839 |
| .000000 | .000000 | .015280 |
| .000000 | .000000 | .020200 |
| .000000 | .000000 | .012189 |

Factores de Participación:

.000000 .000000 26.928070

Modo 8

T = .0431 seg
f = 23.1960 Hertz
w = 145.745 rad/seg

Sa = 1.472E+00
Sv = 1.010E-02
Sd = 6.930E-05

Vector Característico:

| u | v | é |
|---------|----------|---------|
| .000000 | -.113756 | .000000 |
| .000000 | .071657 | .000000 |
| .000000 | .090430 | .000000 |
| .000000 | -.062606 | .000000 |
| .000000 | -.124726 | .000000 |

Factores de Participación:

.000001 -2.404826 -.000001

Modo 9

T = .0304 seg
f = 32.9240 Hertz
w = 206.867 rad/seg

Sa = 1.472E+00
Sv = 7.116E-03
Sd = 3.440E-05

Vector Característico:

| u | v | é |
|----------|---------|---------|
| .076932 | .000000 | .000000 |
| -.115682 | .000000 | .000000 |
| .060491 | .000000 | .000000 |
| .074465 | .000000 | .000000 |
| -.120948 | .000000 | .000000 |

Factores de Participación:

-1.353020 .000000 .000000

Modo 11

T = .0272 seg
f = 36.7945 Hertz
w = 231.186 rad/seg

Sa = 1.472E+00
Sv = 6.367E-03
Sd = 2.754E-05

Vector Característico:

| u | v | é |
|---------|---------|----------|
| .000000 | .000000 | -.018624 |
| .000000 | .000000 | .012826 |
| .000000 | .000000 | .014462 |
| .000000 | .000000 | -.011053 |
| .000000 | .000000 | -.020548 |

Factores de Participación:

.000000 .000000 -14.547830

Modo 10

T = .0283 seg
f = 35.3516 Hertz
w = 222.121 rad/seg

Sa = 1.472E+00
Sv = 6.627E-03
Sd = 2.984E-05

Vector Característico:

| u | v | é |
|---------|----------|---------|
| .000000 | .082280 | .000000 |
| .000000 | -.114962 | .000000 |
| .000000 | .047810 | .000000 |
| .000000 | .084473 | .000000 |
| .000000 | -.118550 | .000000 |

Factores de Participación:

.000000 -1.259585 -.000001

Modo 12

T = .0235 seg
f = 42.6365 Hertz
w = 267.893 rad/seg

Sa = 1.472E+00
Sv = 5.495E-03
Sd = 2.051E-05

Vector Característico:

| u | v | é |
|----------|---------|---------|
| -.036445 | .000000 | .000000 |
| .078250 | .000000 | .000000 |
| -.120702 | .000000 | .000000 |
| .117571 | .000000 | .000000 |
| -.075878 | .000000 | .000000 |

Factores de Participación:

-.609868 .000000 .000000

Modo 13

T = .0225 seg
 f = 44.4896 Hertz
 w = 279.536 rad/seg

Sa = 1.472E+00
 Sv = 5.266E-03
 Sd = 1.884E-05

Vector Característico:

| u | v | é |
|---------|----------|---------|
| .000000 | -.043553 | .000000 |
| .000000 | .085801 | .000000 |
| .000000 | -.122369 | .000000 |
| .000000 | .112837 | .000000 |
| .000000 | -.069748 | .000000 |

Factores de Participación:

| | | |
|---------|----------|---------|
| .000000 | -.538620 | .000000 |
|---------|----------|---------|

Modo 14

Modo 14

T = .0177 seg
 f = 56.5641 Hertz
 w = 355.403 rad/seg

Sa = 1.472E+00
 Sv = 4.142E-03
 Sd = 1.165E-05

Vector Característico:

| u | v | é |
|---------|---------|----------|
| .000000 | .000000 | .012919 |
| .000000 | .000000 | -.019321 |
| .000000 | .000000 | .009073 |
| .000000 | .000000 | .013353 |
| .000000 | .000000 | -.020014 |

Factores de Participación:

| | | |
|---------|---------|-----------|
| .000000 | .000000 | -7.801733 |
|---------|---------|-----------|

Modo 15

T = .0139 seg
 f = 71.8764 Hertz
 w = 451.612 rad/seg

Sa = 1.472E+00
 Sv = 3.259E-03
 Sd = 7.217E-06

Vector Característico:

| u | v | é |
|---------|---------|----------|
| .000000 | .000000 | -.006481 |
| .000000 | .000000 | .013724 |
| .000000 | .000000 | -.020366 |
| .000000 | .000000 | .019252 |
| .000000 | .000000 | -.012095 |

Factores de Participación:

| | | |
|---------|---------|-----------|
| .000000 | .000000 | -3.395215 |
|---------|---------|-----------|

Masas Efectivas (% de masa total)

| modo | X | Y | é |
|-------|--------|--------|--------|
| 1 | .00 | 75.18 | .00 |
| 2 | 76.51 | .00 | .00 |
| 3 | .00 | .00 | 75.12 |
| 4 | 16.38 | .00 | .00 |
| 5 | .00 | 18.03 | .00 |
| 6 | .00 | .00 | 17.88 |
| 7 | 5.15 | .00 | .00 |
| 8 | .00 | 5.13 | .00 |
| 9 | 1.62 | .00 | .00 |
| 10 | .00 | 1.41 | .00 |
| 11 | .00 | .00 | 5.22 |
| 12 | .33 | .00 | .00 |
| 13 | .00 | .26 | .00 |
| 14 | .00 | .00 | 1.50 |
| 15 | .00 | .00 | .28 |
| Total | 100.00 | 100.00 | 100.00 |

Efectos Globales - Sismo en la Direcci3n X

Desplazamientos de Cada Nivel

| nivel | x | y | r |
|-------|-----------|-----------|-----------|
| 5 | 7.074E-03 | 1.137E-07 | 1.004E-15 |
| 4 | 5.612E-03 | 9.002E-08 | 7.901E-16 |
| 3 | 4.095E-03 | 6.366E-08 | 5.590E-16 |
| 2 | 2.470E-03 | 3.694E-08 | 3.248E-16 |
| 1 | 9.767E-04 | 1.397E-08 | 1.228E-16 |

Distorsiones de los Entrepisos

| nivel | x | y | r |
|-------|-----------|-----------|-----------|
| 5 | 1.483E-03 | 2.372E-08 | 2.143E-16 |
| 4 | 1.597E-03 | 2.640E-08 | 2.316E-16 |
| 3 | 1.662E-03 | 2.674E-08 | 2.345E-16 |
| 2 | 1.503E-03 | 2.298E-08 | 2.020E-16 |
| 1 | 9.767E-04 | 1.397E-08 | 1.228E-16 |

Fuerzas Concentradas

| nivel | x | y | r |
|-------|-----------|-----------|-----------|
| 5 | 4.054E+01 | 5.226E-04 | 3.610E-10 |
| 4 | 4.568E+01 | 6.567E-04 | 4.487E-10 |
| 3 | 3.921E+01 | 4.677E-04 | 3.188E-10 |
| 2 | 3.188E+01 | 2.739E-04 | 1.883E-10 |
| 1 | 2.263E+01 | 1.084E-04 | 7.668E-11 |

Cortantes Totales en Cada Nivel

| nivel | x | y | r |
|-------|-----------|-----------|-----------|
| 5 | 4.054E+01 | 5.226E-04 | 3.610E-10 |
| 4 | 7.961E+01 | 1.177E-03 | 8.047E-10 |
| 3 | 1.057E+02 | 1.639E-03 | 1.120E-09 |
| 2 | 1.264E+02 | 1.910E-03 | 1.305E-09 |
| 1 | 1.391E+02 | 2.015E-03 | 1.379E-09 |

Efectos Globales - Sismo en la Dirección Y

Desplazamientos de Cada Nivel

| nivel | x | y | r |
|-------|-----------|-----------|-----------|
| 5 | 1.111E-07 | 7.134E-03 | 9.832E-11 |
| 4 | 8.880E-08 | 5.612E-03 | 7.673E-11 |
| 3 | 6.428E-08 | 3.999E-03 | 5.484E-11 |
| 2 | 3.828E-08 | 2.349E-03 | 3.235E-11 |
| 1 | 1.485E-08 | 9.057E-04 | 1.253E-11 |

Distorsiones de los Entrepisos

| nivel | x | y | r |
|-------|-----------|-----------|-----------|
| 5 | 2.234E-08 | 1.537E-03 | 2.185E-11 |
| 4 | 2.456E-08 | 1.686E-03 | 2.318E-11 |
| 3 | 2.602E-08 | 1.682E-03 | 2.304E-11 |
| 2 | 2.343E-08 | 1.452E-03 | 1.997E-11 |
| 1 | 1.485E-08 | 9.057E-04 | 1.253E-11 |

Fuerzas Concentradas

| nivel | x | y | r |
|-------|-----------|-----------|-----------|
| 5 | 5.108E-04 | 4.072E+01 | 3.163E-05 |
| 4 | 6.484E-04 | 4.515E+01 | 2.920E-05 |
| 3 | 4.716E-04 | 3.885E+01 | 2.693E-05 |
| 2 | 2.832E-04 | 3.192E+01 | 2.244E-05 |
| 1 | 1.147E-04 | 2.298E+01 | 1.632E-05 |

Cortantes Totales en Cada Nivel

| nivel | x | y | r |
|-------|-----------|-----------|-----------|
| 5 | 5.108E-04 | 4.072E+01 | 3.163E-05 |
| 4 | 1.157E-03 | 7.946E+01 | 5.532E-05 |
| 3 | 1.622E-03 | 1.048E+02 | 7.053E-05 |
| 2 | 1.902E-03 | 1.254E+02 | 8.427E-05 |
| 1 | 2.015E-03 | 1.380E+02 | 9.299E-05 |

Efectos en el Pórtico del Eje 1

Sismo en la Dirección Y

Desplazamientos, Distorsiones, Fuerzas y Cortes en Cada Nivel

| nivel | u | è | F | V |
|-------|--------|--------|--------|--------|
| 5 | .00713 | .00154 | 12.950 | 12.950 |
| 4 | .00561 | .00169 | 22.988 | 32.578 |
| 3 | .00400 | .00168 | 18.215 | 44.628 |
| 2 | .00235 | .00145 | 15.853 | 55.648 |
| 1 | .00091 | .00091 | 11.577 | 63.234 |

Momentos Flectores y Cortes en las Vigas

| viga | niv | Mi | Mj | V |
|------|-----|--------|--------|-------|
| 1 | 5 | 8.864 | 9.688 | 4.314 |
| 2 | 5 | 9.688 | 8.864 | 4.314 |
| 1 | 4 | 10.768 | 11.020 | 5.067 |
| 2 | 4 | 11.020 | 10.768 | 5.067 |
| 1 | 3 | 11.285 | 11.539 | 5.308 |
| 2 | 3 | 11.539 | 11.285 | 5.308 |
| 1 | 2 | 10.616 | 10.773 | 4.974 |
| 2 | 2 | 10.773 | 10.616 | 4.974 |
| 1 | 1 | 8.011 | 7.968 | 3.716 |
| 2 | 1 | 7.968 | 8.011 | 3.716 |

Fuerzas Axiales, Momentos y Cortes en las Columnas

| col. | nivel | N | Mt | Mb | V |
|------|-------|--------|---------|---------|--------|
| 1 | 5 | 3.438 | 8.214 | 4.600 | 3.941 |
| 1 | 4 | 7.475 | 5.532 | 5.197 | 3.275 |
| 1 | 3 | 11.680 | 5.604 | 6.448 | 3.645 |
| 1 | 2 | 15.587 | 3.856 | 6.880 | 3.285 |
| 1 | 1 | 18.418 | .945 | 9.589 | 2.765 |
| 2 | 5 | .000 | 29.296 | 33.416 | 6.835 |
| 2 | 4 | .000 | 62.808 | 42.363 | 26.086 |
| 2 | 3 | .000 | 38.892 | 114.015 | 37.347 |
| 2 | 2 | .000 | 82.812 | 221.444 | 49.098 |
| 2 | 1 | .000 | 197.952 | 402.763 | 57.709 |
| 3 | 5 | 3.438 | 8.214 | 4.600 | 3.941 |
| 3 | 4 | 7.475 | 5.532 | 5.197 | 3.275 |
| 3 | 3 | 11.680 | 5.604 | 6.448 | 3.645 |
| 3 | 2 | 15.587 | 3.856 | 6.880 | 3.285 |
| 3 | 1 | 18.418 | .945 | 9.589 | 2.765 |

Efectos en el Pórtico del Eje 4

Sismo en la Dirección Y

Desplazamientos, Distorsiones, Fuerzas y Cortes en Cada Nivel

| nivel | u | ë | F | V |
|-------|--------|--------|--------|--------|
| 5 | .00713 | .00154 | 12.950 | 12.950 |
| 4 | .00561 | .00169 | 22.988 | 32.578 |
| 3 | .00400 | .00168 | 18.215 | 44.628 |
| 2 | .00235 | .00145 | 15.853 | 55.648 |
| 1 | .00091 | .00091 | 11.577 | 63.234 |

Momentos Flectores y Cortes en las Vigas

| viga | niv | Mi | Mj | V |
|------|-----|--------|--------|-------|
| 1 | 5 | 8.864 | 9.688 | 4.314 |
| 2 | 5 | 9.688 | 8.864 | 4.314 |
| 1 | 4 | 10.768 | 11.020 | 5.067 |
| 2 | 4 | 11.020 | 10.768 | 5.067 |
| 1 | 3 | 11.285 | 11.539 | 5.308 |
| 2 | 3 | 11.539 | 11.285 | 5.308 |
| 1 | 2 | 10.616 | 10.773 | 4.974 |
| 2 | 2 | 10.773 | 10.616 | 4.974 |
| 1 | 1 | 8.011 | 7.968 | 3.716 |
| 2 | 1 | 7.968 | 8.011 | 3.716 |

Fuerzas Axiales, Momentos y Cortes en las Columnas

| col. | nivel | N | Mt | Mb | V |
|------|-------|--------|---------|---------|--------|
| 1 | 5 | 3.438 | 8.214 | 4.600 | 3.941 |
| 1 | 4 | 7.475 | 5.532 | 5.197 | 3.275 |
| 1 | 3 | 11.680 | 5.604 | 6.448 | 3.645 |
| 1 | 2 | 15.587 | 3.856 | 6.880 | 3.285 |
| 1 | 1 | 18.418 | .945 | 9.589 | 2.765 |
| 2 | 5 | .000 | 29.296 | 33.416 | 6.835 |
| 2 | 4 | .000 | 62.808 | 42.363 | 26.086 |
| 2 | 3 | .000 | 38.892 | 114.015 | 37.347 |
| 2 | 2 | .000 | 82.812 | 221.444 | 49.098 |
| 2 | 1 | .000 | 197.952 | 402.763 | 57.709 |
| 3 | 5 | 3.438 | 8.214 | 4.600 | 3.941 |
| 3 | 4 | 7.475 | 5.532 | 5.197 | 3.275 |
| 3 | 3 | 11.680 | 5.604 | 6.448 | 3.645 |
| 3 | 2 | 15.587 | 3.856 | 6.880 | 3.285 |
| 3 | 1 | 18.418 | .945 | 9.589 | 2.765 |

Efectos en el Pórtico del Eje 2

Sismo en la Dirección Y

Desplazamientos, Distorsiones, Fuerzas y Cortes en Cada Nivel

| nivel | u | ë | F | V |
|-------|--------|--------|-------|-------|
| 5 | .00713 | .00154 | 7.858 | 7.858 |
| 4 | .00561 | .00169 | .807 | 7.200 |
| 3 | .00400 | .00168 | 1.234 | 7.793 |
| 2 | .00235 | .00145 | 1.276 | 7.073 |
| 1 | .00091 | .00091 | 2.017 | 5.745 |

Momentos Flectores y Cortes en las Vigas

| viga | niv | Mi | Mj | V |
|------|-----|-------|-------|-------|
| 1 | 5 | 4.312 | 3.905 | 1.387 |
| 2 | 5 | 3.905 | 4.312 | 1.387 |
| 1 | 4 | 5.909 | 5.648 | 1.951 |
| 2 | 4 | 5.648 | 5.909 | 1.951 |
| 1 | 3 | 6.164 | 5.831 | 2.025 |
| 2 | 3 | 5.831 | 6.164 | 2.025 |
| 1 | 2 | 5.806 | 5.507 | 1.909 |
| 2 | 2 | 5.507 | 5.806 | 1.909 |
| 1 | 1 | 4.492 | 4.219 | 1.470 |
| 2 | 1 | 4.219 | 4.492 | 1.470 |

Fuerzas Axiales, Momentos y Cortes en las Columnas

| col. | nivel | N | Mt | Mb | V |
|------|-------|-------|-------|-------|-------|
| 1 | 5 | 1.171 | 4.071 | 2.346 | 1.974 |
| 1 | 4 | 2.818 | 3.333 | 2.927 | 1.908 |
| 1 | 3 | 4.515 | 3.155 | 3.759 | 2.078 |
| 1 | 2 | 6.101 | 2.055 | 4.142 | 1.887 |
| 1 | 1 | 7.281 | .511 | 6.485 | 1.805 |
| 2 | 5 | .000 | 7.433 | 5.280 | 3.912 |
| 2 | 4 | .000 | 5.548 | 5.483 | 3.384 |
| 2 | 3 | .000 | 5.723 | 6.137 | 3.637 |
| 2 | 2 | .000 | 4.590 | 6.138 | 3.299 |
| 2 | 1 | .000 | 2.025 | 5.994 | 2.135 |
| 3 | 5 | 1.171 | 4.071 | 2.346 | 1.974 |
| 3 | 4 | 2.818 | 3.333 | 2.927 | 1.908 |
| 3 | 3 | 4.515 | 3.155 | 3.759 | 2.078 |
| 3 | 2 | 6.101 | 2.055 | 4.142 | 1.887 |
| 3 | 1 | 7.281 | .511 | 6.485 | 1.805 |

Efectos en el Pórtico del Eje 3

Sismo en la Dirección Y

Desplazamientos, Distorsiones, Fuerzas y Cortes en Cada Nivel

| nivel | u | e | F | V |
|-------|--------|--------|-------|-------|
| 5 | .00713 | .00154 | 7.858 | 7.858 |
| 4 | .00561 | .00169 | .807 | 7.200 |
| 3 | .00400 | .00168 | 1.234 | 7.793 |
| 2 | .00235 | .00145 | 1.276 | 7.073 |
| 1 | .00091 | .00091 | 2.017 | 5.745 |

Momentos Flectores y Cortes en las Vigas

| viga | niv | Mi | Mj | V |
|------|-----|-------|-------|-------|
| 1 | 5 | 4.312 | 3.905 | 1.387 |
| 2 | 5 | 3.905 | 4.312 | 1.387 |
| 1 | 4 | 5.909 | 5.648 | 1.951 |
| 2 | 4 | 5.648 | 5.909 | 1.951 |
| 1 | 3 | 6.164 | 5.831 | 2.025 |
| 2 | 3 | 5.831 | 6.164 | 2.025 |
| 1 | 2 | 5.806 | 5.507 | 1.909 |
| 2 | 2 | 5.507 | 5.806 | 1.909 |
| 1 | 1 | 4.492 | 4.219 | 1.470 |
| 2 | 1 | 4.219 | 4.492 | 1.470 |

Fuerzas Axiales, Momentos y Cortes en las Columnas

| col. | nivel | N | Mt | Mb | V |
|------|-------|-------|-------|-------|-------|
| 1 | 5 | 1.171 | 4.071 | 2.346 | 1.974 |
| 1 | 4 | 2.818 | 3.333 | 2.927 | 1.908 |
| 1 | 3 | 4.515 | 3.155 | 3.759 | 2.078 |
| 1 | 2 | 6.101 | 2.055 | 4.142 | 1.887 |
| 1 | 1 | 7.281 | .511 | 6.485 | 1.805 |
| 2 | 5 | .000 | 7.433 | 5.280 | 3.912 |
| 2 | 4 | .000 | 5.548 | 5.483 | 3.384 |
| 2 | 3 | .000 | 5.723 | 6.137 | 3.637 |
| 2 | 2 | .000 | 4.590 | 6.138 | 3.299 |
| 2 | 1 | .000 | 2.025 | 5.994 | 2.135 |
| 3 | 5 | 1.171 | 4.071 | 2.346 | 1.974 |
| 3 | 4 | 2.818 | 3.333 | 2.927 | 1.908 |
| 3 | 3 | 4.515 | 3.155 | 3.759 | 2.078 |
| 3 | 2 | 6.101 | 2.055 | 4.142 | 1.887 |
| 3 | 1 | 7.281 | .511 | 6.485 | 1.805 |

Efectos en el Pórtico del Eje A

Sismo en la Dirección X

Desplazamientos, Distorsiones, Fuerzas y Cortes en Cada Nivel

| nivel | u | ë | F | V |
|-------|--------|--------|--------|--------|
| 5 | .00707 | .00148 | 17.552 | 17.552 |
| 4 | .00561 | .00160 | 23.133 | 37.415 |
| 3 | .00410 | .00166 | 19.006 | 50.060 |
| 2 | .00247 | .00150 | 15.841 | 60.611 |
| 1 | .00098 | .00098 | 11.424 | 67.529 |

Momentos Flectores y Cortes en las Vigas

| viga | niv | Mi | Mj | V |
|------|-----|--------|--------|--------|
| 1 | 5 | 9.544 | 8.256 | 7.911 |
| 3 | 5 | 8.256 | 9.544 | 7.911 |
| 1 | 4 | 13.321 | 12.051 | 12.686 |
| 2 | 4 | 10.613 | 10.613 | 5.737 |
| 3 | 4 | 12.051 | 13.321 | 12.686 |
| 1 | 3 | 16.023 | 15.172 | 15.597 |
| 2 | 3 | 11.578 | 11.578 | 6.258 |
| 3 | 3 | 15.172 | 16.023 | 15.597 |
| 1 | 2 | 16.717 | 15.916 | 16.317 |
| 2 | 2 | 10.561 | 10.561 | 5.708 |
| 3 | 2 | 15.916 | 16.717 | 16.317 |
| 1 | 1 | 13.789 | 13.300 | 13.545 |
| 2 | 1 | 7.936 | 7.936 | 4.289 |
| 3 | 1 | 13.300 | 13.789 | 13.545 |

Fuerzas Axiales, Momentos y Cortes en las Columnas

| col. | nivel | N | Mt | Mb | V |
|------|-------|--------|--------|---------|--------|
| 1 | 5 | 5.354 | 13.273 | 9.851 | 4.648 |
| 1 | 4 | 13.627 | 24.679 | 14.015 | 9.132 |
| 1 | 3 | 23.704 | 24.997 | 34.079 | 15.464 |
| 1 | 2 | 34.059 | 14.637 | 69.607 | 20.783 |
| 1 | 1 | 42.374 | 50.733 | 145.592 | 26.694 |
| 2 | 5 | 5.354 | 7.607 | 6.783 | 4.427 |
| 2 | 4 | 9.213 | 17.595 | 13.916 | 9.669 |
| 2 | 3 | 14.478 | 15.290 | 16.209 | 9.576 |
| 2 | 2 | 20.459 | 12.995 | 18.090 | 9.541 |
| 2 | 1 | 25.592 | 5.092 | 21.511 | 7.076 |
| 3 | 5 | 5.354 | 7.607 | 6.783 | 4.427 |
| 3 | 4 | 9.213 | 17.595 | 13.916 | 9.669 |
| 3 | 3 | 14.478 | 15.290 | 16.209 | 9.576 |
| 3 | 2 | 20.459 | 12.995 | 18.090 | 9.541 |
| 3 | 1 | 25.592 | 5.092 | 21.511 | 7.076 |
| 4 | 5 | 5.354 | 13.273 | 9.851 | 4.648 |
| 4 | 4 | 13.627 | 24.679 | 14.015 | 9.132 |
| 4 | 3 | 23.704 | 24.997 | 34.079 | 15.464 |
| 4 | 2 | 34.059 | 14.637 | 69.607 | 20.783 |
| 4 | 1 | 42.374 | 50.733 | 145.592 | 26.694 |

Efectos en el Pórtico del Eje C

Sismo en la Dirección X

Desplazamientos, Distorsiones, Fuerzas y Cortes en Cada Nivel

| nivel | u | ë | F | V |
|-------|--------|--------|--------|--------|
| 5 | .00707 | .00148 | 17.552 | 17.552 |
| 4 | .00561 | .00160 | 23.133 | 37.415 |
| 3 | .00410 | .00166 | 19.006 | 50.060 |
| 2 | .00247 | .00150 | 15.841 | 60.611 |
| 1 | .00098 | .00098 | 11.424 | 67.529 |

Momentos Flectores y Cortes en las Vigas

| viga | niv | Mi | Mj | V |
|------|-----|--------|--------|--------|
| 1 | 5 | 9.544 | 8.256 | 7.911 |
| 3 | 5 | 8.256 | 9.544 | 7.911 |
| 1 | 4 | 13.321 | 12.051 | 12.686 |
| 2 | 4 | 10.613 | 10.613 | 5.737 |
| 3 | 4 | 12.051 | 13.321 | 12.686 |
| 1 | 3 | 16.023 | 15.172 | 15.597 |
| 2 | 3 | 11.578 | 11.578 | 6.258 |
| 3 | 3 | 15.172 | 16.023 | 15.597 |
| 1 | 2 | 16.717 | 15.916 | 16.317 |
| 2 | 2 | 10.561 | 10.561 | 5.708 |
| 3 | 2 | 15.916 | 16.717 | 16.317 |
| 1 | 1 | 13.789 | 13.300 | 13.545 |
| 2 | 1 | 7.936 | 7.936 | 4.289 |
| 3 | 1 | 13.300 | 13.789 | 13.545 |

Fuerzas Axiales, Momentos y Cortes en las Columnas

| col. | nivel | N | Mt | Mb | V |
|------|-------|--------|--------|---------|--------|
| 1 | 5 | 5.354 | 13.273 | 9.851 | 4.648 |
| 1 | 4 | 13.627 | 24.679 | 14.015 | 9.132 |
| 1 | 3 | 23.704 | 24.997 | 34.079 | 15.464 |
| 1 | 2 | 34.059 | 14.637 | 69.607 | 20.783 |
| 1 | 1 | 42.374 | 50.733 | 145.592 | 26.694 |
| 2 | 5 | 5.354 | 7.607 | 6.783 | 4.427 |
| 2 | 4 | 9.213 | 17.595 | 13.916 | 9.669 |
| 2 | 3 | 14.478 | 15.290 | 16.209 | 9.576 |
| 2 | 2 | 20.459 | 12.995 | 18.090 | 9.541 |
| 2 | 1 | 25.592 | 5.092 | 21.511 | 7.076 |
| 3 | 5 | 5.354 | 7.607 | 6.783 | 4.427 |
| 3 | 4 | 9.213 | 17.595 | 13.916 | 9.669 |
| 3 | 3 | 14.478 | 15.290 | 16.209 | 9.576 |
| 3 | 2 | 20.459 | 12.995 | 18.090 | 9.541 |
| 3 | 1 | 25.592 | 5.092 | 21.511 | 7.076 |
| 4 | 5 | 5.354 | 13.273 | 9.851 | 4.648 |
| 4 | 4 | 13.627 | 24.679 | 14.015 | 9.132 |
| 4 | 3 | 23.704 | 24.997 | 34.079 | 15.464 |
| 4 | 2 | 34.059 | 14.637 | 69.607 | 20.783 |
| 4 | 1 | 42.374 | 50.733 | 145.592 | 26.694 |

Efectos en el Pórtico del Eje B

Sismo en la Dirección X

Desplazamientos, Distorsiones, Fuerzas y Cortes en Cada Nivel

| nivel | u | ë | F | V |
|-------|--------|--------|-------|-------|
| 5 | .00707 | .00148 | 5.627 | 5.627 |
| 4 | .00561 | .00160 | .959 | 4.796 |
| 3 | .00410 | .00166 | 1.197 | 5.608 |
| 2 | .00247 | .00150 | .840 | 5.226 |
| 1 | .00098 | .00098 | 1.569 | 4.064 |

Momentos Flectores y Cortes en las Vigas

| viga | niv | Mi | Mj | V |
|------|-----|-------|-------|-------|
| 1 | 5 | 2.586 | 1.904 | .960 |
| 2 | 5 | 1.370 | 1.370 | .589 |
| 3 | 5 | 1.904 | 2.586 | .960 |
| 1 | 4 | 3.411 | 2.890 | 1.348 |
| 2 | 4 | 2.526 | 2.526 | 1.087 |
| 3 | 4 | 2.890 | 3.411 | 1.348 |
| 1 | 3 | 3.580 | 3.000 | 1.407 |
| 2 | 3 | 2.552 | 2.552 | 1.098 |
| 3 | 3 | 3.000 | 3.580 | 1.407 |
| 1 | 2 | 3.526 | 2.961 | 1.388 |
| 2 | 2 | 2.494 | 2.494 | 1.073 |
| 3 | 2 | 2.961 | 3.526 | 1.388 |
| 1 | 1 | 2.847 | 2.324 | 1.106 |
| 2 | 1 | 1.855 | 1.855 | .798 |
| 3 | 1 | 2.324 | 2.847 | 1.106 |

Fuerzas Axiales, Momentos y Cortes en las Columnas

| col. | nivel | N | Mt | Mb | V |
|------|-------|-------|-------|-------|-------|
| 1 | 5 | .800 | 2.311 | 1.461 | 1.159 |
| 1 | 4 | 1.922 | 1.677 | 1.393 | .928 |
| 1 | 3 | 3.083 | 1.980 | 2.045 | 1.204 |
| 1 | 2 | 4.218 | 1.328 | 2.314 | 1.105 |
| 1 | 1 | 5.091 | .431 | 4.278 | 1.236 |
| 2 | 5 | .310 | 2.915 | 2.462 | 1.655 |
| 2 | 4 | .528 | 2.400 | 2.384 | 1.470 |
| 2 | 3 | .783 | 2.589 | 2.611 | 1.600 |
| 2 | 2 | 1.038 | 2.331 | 2.573 | 1.509 |
| 2 | 1 | 1.278 | 1.186 | 1.801 | .797 |
| 3 | 5 | .310 | 2.915 | 2.462 | 1.655 |
| 3 | 4 | .528 | 2.400 | 2.384 | 1.470 |
| 3 | 3 | .783 | 2.589 | 2.611 | 1.600 |
| 3 | 2 | 1.038 | 2.331 | 2.573 | 1.509 |
| 3 | 1 | 1.278 | 1.186 | 1.801 | .797 |
| 4 | 5 | .800 | 2.311 | 1.461 | 1.159 |
| 4 | 4 | 1.922 | 1.677 | 1.393 | .928 |
| 4 | 3 | 3.083 | 1.980 | 2.045 | 1.204 |
| 4 | 2 | 4.218 | 1.328 | 2.314 | 1.105 |
| 4 | 1 | 5.091 | .431 | 4.278 | 1.236 |

ANALISIS DE PORTICO PLANO EN LA DIRECCION X-X, PORTICO EJE#A Y EJE#C

F R A M E E L E M E N T F O R C E S

| FRAME | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|--------|------|------------|------|--------|------|------------|------|
| 1 | ENVOLV | MAX | | | | | | |
| | | 0.00 | -2.04 | 0.00 | 55.18 | 0.00 | 279.81 | 0.00 |
| | | 1.63 | 4.45 | 0.00 | 55.18 | 0.00 | 190.91 | 0.00 |
| | | 3.25 | 10.95 | 0.00 | 55.18 | 0.00 | 103.59 | 0.00 |
| 1 | ENVOLV | MIN | | | | | | |
| | | 0.00 | -204.65 | 0.00 | -58.56 | 0.00 | -283.55 | 0.00 |
| | | 1.63 | -189.24 | 0.00 | -58.56 | 0.00 | -189.16 | 0.00 |
| | | 3.25 | -177.63 | 0.00 | -58.56 | 0.00 | -96.33 | 0.00 |
| 2 | ENVOLV | MAX | | | | | | |
| | | 0.00 | -8.639E-01 | 0.00 | 38.28 | 0.00 | 132.78 | 0.00 |
| | | 1.63 | 5.63 | 0.00 | 38.28 | 0.00 | 71.60 | 0.00 |
| | | 3.25 | 12.13 | 0.00 | 38.28 | 0.00 | 12.30 | 0.00 |
| 2 | ENVOLV | MIN | | | | | | |
| | | 0.00 | -163.82 | 0.00 | -42.49 | 0.00 | -137.19 | 0.00 |
| | | 1.63 | -148.40 | 0.00 | -42.49 | 0.00 | -69.17 | 0.00 |
| | | 3.25 | -139.99 | 0.00 | -42.49 | 0.00 | -3.03 | 0.00 |
| 3 | ENVOLV | MAX | | | | | | |
| | | 0.00 | -3.49 | 0.00 | 21.63 | 0.00 | 49.75 | 0.00 |
| | | 1.63 | 3.00 | 0.00 | 21.63 | 0.00 | 16.80 | 0.00 |
| | | 3.25 | 9.50 | 0.00 | 21.63 | 0.00 | 34.89 | 0.00 |
| 3 | ENVOLV | MIN | | | | | | |
| | | 0.00 | -122.41 | 0.00 | -27.20 | 0.00 | -53.51 | 0.00 |
| | | 1.63 | -107.00 | 0.00 | -27.20 | 0.00 | -11.51 | 0.00 |
| | | 3.25 | -97.91 | 0.00 | -27.20 | 0.00 | -20.55 | 0.00 |
| 4 | ENVOLV | MAX | | | | | | |
| | | 0.00 | -5.31 | 0.00 | 9.82 | 0.00 | 19.67 | 0.00 |
| | | 1.63 | 1.19 | 0.00 | 9.82 | 0.00 | 9.11 | 0.00 |
| | | 3.25 | 7.68 | 0.00 | 9.82 | 0.00 | 31.39 | 0.00 |
| 4 | ENVOLV | MIN | | | | | | |
| | | 0.00 | -80.91 | 0.00 | -15.23 | 0.00 | -18.52 | 0.00 |
| | | 1.63 | -65.49 | 0.00 | -15.23 | 0.00 | 2.53 | 0.00 |
| | | 3.25 | -56.53 | 0.00 | -15.23 | 0.00 | -12.71 | 0.00 |
| 5 | ENVOLV | MAX | | | | | | |
| | | 0.00 | -5.49 | 0.00 | 15.14 | 0.00 | 26.88 | 0.00 |
| | | 1.63 | 1.01 | 0.00 | 15.14 | 0.00 | 10.45 | 0.00 |
| | | 3.25 | 7.51 | 0.00 | 15.14 | 0.00 | 36.85 | 0.00 |
| 5 | ENVOLV | MIN | | | | | | |
| | | 0.00 | -40.39 | 0.00 | -16.24 | 0.00 | -19.14 | 0.00 |
| | | 1.63 | -25.39 | 0.00 | -16.24 | 0.00 | -9.073E-01 | 0.00 |
| | | 3.25 | -17.84 | 0.00 | -16.24 | 0.00 | -25.50 | 0.00 |
| 6 | ENVOLV | MAX | | | | | | |
| | | 0.00 | 43.39 | 0.00 | 16.67 | 0.00 | 41.69 | 0.00 |
| | | 1.63 | 42.76 | 0.00 | 16.67 | 0.00 | 14.92 | 0.00 |
| | | 3.25 | 42.13 | 0.00 | 16.67 | 0.00 | 9.77 | 0.00 |
| 6 | ENVOLV | MIN | | | | | | |
| | | 0.00 | -201.04 | 0.00 | -15.46 | 0.00 | -40.47 | 0.00 |
| | | 1.63 | -192.07 | 0.00 | -15.46 | 0.00 | -15.67 | 0.00 |
| | | 3.25 | -183.10 | 0.00 | -15.46 | 0.00 | -12.49 | 0.00 |
| 7 | ENVOLV | MAX | | | | | | |
| | | 0.00 | 36.03 | 0.00 | 20.12 | 0.00 | 36.87 | 0.00 |
| | | 1.63 | 35.41 | 0.00 | 20.12 | 0.00 | 4.46 | 0.00 |
| | | 3.25 | 34.78 | 0.00 | 20.12 | 0.00 | 25.03 | 0.00 |
| 7 | ENVOLV | MIN | | | | | | |
| | | 0.00 | -158.53 | 0.00 | -18.06 | 0.00 | -33.67 | 0.00 |
| | | 1.63 | -149.56 | 0.00 | -18.06 | 0.00 | -4.61 | 0.00 |
| | | 3.25 | -140.59 | 0.00 | -18.06 | 0.00 | -28.50 | 0.00 |

| | | | | | | | |
|----|--------|------|-----------|-------|--------|------|------------|
| 8 | ENVOLV | MAX | | | | | |
| | | 0.00 | 26.88 | 0.00 | 21.00 | 0.00 | 34.27 |
| | | 1.63 | 26.25 | 0.00 | 21.00 | 0.00 | 4.474E-01 |
| | | 3.25 | 25.62 | 0.00 | 21.00 | 0.00 | 30.12 |
| 8 | ENVOLV | MIN | | | | | |
| | | 0.00 | -114.83 | 0.00 | -18.72 | 0.00 | -30.72 |
| | | 1.63 | -105.86 | 0.00 | -18.72 | 0.00 | -6.207E-01 |
| | | 3.25 | -96.89 | 0.00 | -18.72 | 0.00 | -33.97 |
| 9 | ENVOLV | MAX | | | | | |
| | | 0.00 | 18.92 | 0.00 | 19.31 | 0.00 | 28.59 |
| | | 1.63 | 18.29 | 0.00 | 19.31 | 0.00 | 1.42 |
| | | 3.25 | 17.66 | 0.00 | 19.31 | 0.00 | 28.00 |
| 9 | ENVOLV | MIN | | | | | |
| | | 0.00 | -72.46 | 0.00 | -16.36 | 0.00 | -25.16 |
| | | 1.63 | -63.49 | 0.00 | -16.36 | 0.00 | -2.90 |
| | | 3.25 | -54.52 | 0.00 | -16.36 | 0.00 | -34.16 |
| 10 | ENVOLV | MAX | | | | | |
| | | 0.00 | 10.93 | 0.00 | 12.76 | 0.00 | 19.75 |
| | | 1.63 | 11.38 | 0.00 | 12.76 | 0.00 | 1.84 |
| | | 3.25 | 11.84 | 0.00 | 12.76 | 0.00 | 20.52 |
| 10 | ENVOLV | MIN | | | | | |
| | | 0.00 | -16.84 | 0.00 | -11.65 | 0.00 | -17.36 |
| | | 1.63 | -23.37 | 0.00 | -11.65 | 0.00 | -1.25 |
| | | 3.25 | -29.90 | 0.00 | -11.65 | 0.00 | -21.73 |
| 11 | ENVOLV | MAX | | | | | |
| | | 0.00 | -30.46 | 0.00 | 15.04 | 0.00 | 39.10 |
| | | 1.63 | -26.61 | 0.00 | 15.04 | 0.00 | 14.99 |
| | | 3.25 | -22.75 | 0.00 | 15.04 | 0.00 | 12.50 |
| 11 | ENVOLV | MIN | | | | | |
| | | 0.00 | -160.24 | 0.00 | -16.25 | 0.00 | -40.32 |
| | | 1.63 | -151.09 | 0.00 | -16.25 | 0.00 | -14.23 |
| | | 3.25 | -141.94 | 0.00 | -16.25 | 0.00 | -9.78 |
| 12 | ENVOLV | MAX | | | | | |
| | | 0.00 | -23.83 | 0.00 | 18.31 | 0.00 | 33.94 |
| | | 1.63 | -19.97 | 0.00 | 18.31 | 0.00 | 4.47 |
| | | 3.25 | -16.12 | 0.00 | 18.31 | 0.00 | 29.05 |
| 12 | ENVOLV | MIN | | | | | |
| | | 0.00 | -124.65 | 0.00 | -20.36 | 0.00 | -37.13 |
| | | 1.63 | -115.50 | 0.00 | -20.36 | 0.00 | -4.32 |
| | | 3.25 | -106.35 | 0.00 | -20.36 | 0.00 | -25.57 |
| 13 | ENVOLV | MAX | | | | | |
| | | 0.00 | -19.34 | 0.00 | 19.14 | 0.00 | 31.09 |
| | | 1.63 | -15.48 | 0.00 | 19.14 | 0.00 | 5.098E-01 |
| | | 3.25 | -11.63 | 0.00 | 19.14 | 0.00 | 34.96 |
| 13 | ENVOLV | MIN | | | | | |
| | | 0.00 | -89.62 | 0.00 | -21.41 | 0.00 | -34.62 |
| | | 1.63 | -80.47 | 0.00 | -21.41 | 0.00 | -2.871E-01 |
| | | 3.25 | -71.32 | 0.00 | -21.41 | 0.00 | -31.12 |
| 14 | ENVOLV | MAX | | | | | |
| | | 0.00 | -12.19 | 0.00 | 18.24 | 0.00 | 24.14 |
| | | 1.63 | -9.17 | 0.00 | 18.24 | 0.00 | 6.99 |
| | | 3.25 | -5.31 | 0.00 | 18.24 | 0.00 | 41.29 |
| 14 | ENVOLV | MIN | | | | | |
| | | 0.00 | -54.70 | 0.00 | -21.18 | 0.00 | -27.54 |
| | | 1.63 | -45.55 | 0.00 | -21.18 | 0.00 | -5.51 |
| | | 3.25 | -36.40 | 0.00 | -21.18 | 0.00 | -35.16 |
| 15 | ENVOLV | MAX | | | | | |
| | | 0.00 | 3.60 | 4.93 | 0.00 | 0.00 | 9.41 |
| | | 1.63 | 7.905E-01 | 4.93 | 0.00 | 0.00 | 1.40 |
| | | 3.25 | -2.02 | 4.93 | 0.00 | 0.00 | 5.40 |
| 15 | ENVOLV | MIN | | | | | |
| | | 0.00 | -9.46 | -3.86 | 0.00 | 0.00 | -7.14 |
| | | 1.63 | -12.73 | -3.86 | 0.00 | 0.00 | -8.681E-01 |
| | | 3.25 | -18.77 | -3.86 | 0.00 | 0.00 | -6.60 |

| | | | | | | | |
|----|--------|------|------------|--------|--------|------|---------|
| 16 | ENVOLV | MAX | | | | | |
| | | 0.00 | 71.73 | 0.00 | 50.93 | 0.00 | 100.24 |
| | | 1.63 | 72.78 | 0.00 | 50.93 | 0.00 | 175.16 |
| | | 3.25 | 73.84 | 0.00 | 50.93 | 0.00 | 251.65 |
| 16 | ENVOLV | MIN | | | | | |
| | | 0.00 | -238.41 | 0.00 | -47.54 | 0.00 | -92.96 |
| | | 1.63 | -253.53 | 0.00 | -47.54 | 0.00 | -173.38 |
| | | 3.25 | -268.64 | 0.00 | -47.54 | 0.00 | -255.36 |
| 17 | ENVOLV | MAX | | | | | |
| | | 0.00 | 55.93 | 0.00 | 43.97 | 0.00 | 8.64 |
| | | 1.63 | 56.98 | 0.00 | 43.97 | 0.00 | 66.93 |
| | | 3.25 | 58.04 | 0.00 | 43.97 | 0.00 | 130.50 |
| 17 | ENVOLV | MIN | | | | | |
| | | 0.00 | -183.79 | 0.00 | -39.76 | 0.00 | 1.29 |
| | | 1.63 | -198.90 | 0.00 | -39.76 | 0.00 | -64.47 |
| | | 3.25 | -214.01 | 0.00 | -39.76 | 0.00 | -134.88 |
| 18 | ENVOLV | MAX | | | | | |
| | | 0.00 | 35.98 | 0.00 | 34.81 | 0.00 | 64.98 |
| | | 1.63 | 37.03 | 0.00 | 34.81 | 0.00 | 8.41 |
| | | 3.25 | 38.09 | 0.00 | 34.81 | 0.00 | 44.44 |
| 18 | ENVOLV | MIN | | | | | |
| | | 0.00 | -124.40 | 0.00 | -29.24 | 0.00 | -50.57 |
| | | 1.63 | -139.52 | 0.00 | -29.24 | 0.00 | -3.07 |
| | | 3.25 | -154.63 | 0.00 | -29.24 | 0.00 | -48.15 |
| 19 | ENVOLV | MAX | | | | | |
| | | 0.00 | 17.47 | 0.00 | 19.72 | 0.00 | 76.00 |
| | | 1.63 | 18.53 | 0.00 | 19.72 | 0.00 | 43.96 |
| | | 3.25 | 19.59 | 0.00 | 19.72 | 0.00 | 11.96 |
| 19 | ENVOLV | MIN | | | | | |
| | | 0.00 | -66.34 | 0.00 | -14.29 | 0.00 | -57.16 |
| | | 1.63 | -81.45 | 0.00 | -14.29 | 0.00 | -33.94 |
| | | 3.25 | -96.57 | 0.00 | -14.29 | 0.00 | -10.72 |
| 20 | ENVOLV | MAX | | | | | |
| | | 0.00 | 4.40 | 0.00 | 4.93 | 0.00 | 26.03 |
| | | 1.63 | 5.46 | 0.00 | 4.93 | 0.00 | 31.56 |
| | | 3.25 | 6.52 | 0.00 | 4.93 | 0.00 | 37.09 |
| 20 | ENVOLV | MIN | | | | | |
| | | 0.00 | -14.78 | 0.00 | -3.86 | 0.00 | -14.62 |
| | | 1.63 | -29.90 | 0.00 | -3.86 | 0.00 | -21.88 |
| | | 3.25 | -45.01 | 0.00 | -3.86 | 0.00 | -29.15 |
| 21 | ENVOLV | MAX | | | | | |
| | | 1.25 | 1.78 | 14.06 | 0.00 | 0.00 | 0.00 |
| | | 1.79 | 1.78 | 15.02 | 0.00 | 0.00 | 0.00 |
| | | 2.33 | 1.78 | 15.99 | 0.00 | 0.00 | 0.00 |
| | | 2.86 | 1.78 | 17.85 | 0.00 | 0.00 | 0.00 |
| | | 3.40 | 1.78 | 19.84 | 0.00 | 0.00 | 0.00 |
| 21 | ENVOLV | MIN | | | | | |
| | | 1.25 | -9.511E-01 | -19.21 | 0.00 | 0.00 | 0.00 |
| | | 1.79 | -9.511E-01 | -17.78 | 0.00 | 0.00 | 0.00 |
| | | 2.33 | -9.511E-01 | -16.34 | 0.00 | 0.00 | 0.00 |
| | | 2.86 | -9.511E-01 | -15.81 | 0.00 | 0.00 | 0.00 |
| | | 3.40 | -9.511E-01 | -15.41 | 0.00 | 0.00 | 0.00 |
| 22 | ENVOLV | MAX | | | | | |
| | | 1.25 | 9.46 | 17.87 | 0.00 | 0.00 | 0.00 |
| | | 1.79 | 9.46 | 18.83 | 0.00 | 0.00 | 0.00 |
| | | 2.33 | 9.46 | 19.80 | 0.00 | 0.00 | 0.00 |
| | | 2.86 | 9.46 | 21.40 | 0.00 | 0.00 | 0.00 |
| | | 3.40 | 9.46 | 23.40 | 0.00 | 0.00 | 0.00 |
| 22 | ENVOLV | MIN | | | | | |
| | | 1.25 | -8.10 | -23.63 | 0.00 | 0.00 | 0.00 |
| | | 1.79 | -8.10 | -22.20 | 0.00 | 0.00 | 0.00 |
| | | 2.33 | -8.10 | -20.77 | 0.00 | 0.00 | 0.00 |
| | | 2.86 | -8.10 | -19.98 | 0.00 | 0.00 | 0.00 |
| | | 3.40 | -8.10 | -19.58 | 0.00 | 0.00 | 0.00 |

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|----|------------|--------|--------|------|------|------|------------|
| 23 | ENVOLV MAX | | | | | | |
| | 1.25 | 17.81 | 17.06 | 0.00 | 0.00 | 0.00 | 19.84 |
| | 1.79 | 17.81 | 18.02 | 0.00 | 0.00 | 0.00 | 10.49 |
| | 2.33 | 17.81 | 18.99 | 0.00 | 0.00 | 0.00 | 1.26 |
| | 2.86 | 17.81 | 20.55 | 0.00 | 0.00 | 0.00 | 11.29 |
| | 3.40 | 17.81 | 22.55 | 0.00 | 0.00 | 0.00 | 21.01 |
| 23 | ENVOLV MIN | | | | | | |
| | 1.25 | -17.97 | -22.94 | 0.00 | 0.00 | 0.00 | -22.24 |
| | 1.79 | -17.97 | -21.51 | 0.00 | 0.00 | 0.00 | -10.36 |
| | 2.33 | -17.97 | -20.08 | 0.00 | 0.00 | 0.00 | 3.053E-01 |
| | 2.86 | -17.97 | -19.25 | 0.00 | 0.00 | 0.00 | -10.00 |
| | 3.40 | -17.97 | -18.85 | 0.00 | 0.00 | 0.00 | -21.05 |
| 24 | ENVOLV MAX | | | | | | |
| | 1.25 | 38.95 | 15.42 | 0.00 | 0.00 | 0.00 | 18.53 |
| | 1.79 | 38.95 | 16.38 | 0.00 | 0.00 | 0.00 | 10.24 |
| | 2.33 | 38.95 | 17.40 | 0.00 | 0.00 | 0.00 | 1.43 |
| | 2.86 | 38.95 | 19.37 | 0.00 | 0.00 | 0.00 | 9.25 |
| | 3.40 | 38.95 | 21.36 | 0.00 | 0.00 | 0.00 | 18.05 |
| 24 | ENVOLV MIN | | | | | | |
| | 1.25 | -43.25 | -20.25 | 0.00 | 0.00 | 0.00 | -19.95 |
| | 1.79 | -43.25 | -18.82 | 0.00 | 0.00 | 0.00 | -9.70 |
| | 2.33 | -43.25 | -17.46 | 0.00 | 0.00 | 0.00 | -2.347E-01 |
| | 2.86 | -43.25 | -17.01 | 0.00 | 0.00 | 0.00 | -8.66 |
| | 3.40 | -43.25 | -16.61 | 0.00 | 0.00 | 0.00 | -19.39 |
| 25 | ENVOLV MAX | | | | | | |
| | 1.25 | 11.65 | 9.61 | 0.00 | 0.00 | 0.00 | 14.81 |
| | 1.95 | 11.65 | 10.79 | 0.00 | 0.00 | 0.00 | 8.17 |
| | 2.65 | 11.65 | 12.11 | 0.00 | 0.00 | 0.00 | 2.26 |
| | 3.35 | 11.65 | 14.48 | 0.00 | 0.00 | 0.00 | 9.87 |
| | 4.05 | 11.65 | 16.84 | 0.00 | 0.00 | 0.00 | 17.36 |
| 25 | ENVOLV MIN | | | | | | |
| | 1.25 | -12.76 | -14.93 | 0.00 | 0.00 | 0.00 | -16.36 |
| | 1.95 | -12.76 | -13.30 | 0.00 | 0.00 | 0.00 | -6.99 |
| | 2.65 | -12.76 | -11.82 | 0.00 | 0.00 | 0.00 | -3.060E-01 |
| | 3.35 | -12.76 | -11.37 | 0.00 | 0.00 | 0.00 | -9.10 |
| | 4.05 | -12.76 | -10.93 | 0.00 | 0.00 | 0.00 | -19.75 |
| 26 | ENVOLV MAX | | | | | | |
| | 6.5E-01 | 5.22 | 3.65 | 0.00 | 0.00 | 0.00 | 11.17 |
| | 1.58 | 5.22 | 5.31 | 0.00 | 0.00 | 0.00 | 7.58 |
| | 2.50 | 5.22 | 6.97 | 0.00 | 0.00 | 0.00 | 2.99 |
| | 3.42 | 5.22 | 10.40 | 0.00 | 0.00 | 0.00 | 7.15 |
| | 4.35 | 5.22 | 13.84 | 0.00 | 0.00 | 0.00 | 12.09 |
| 26 | ENVOLV MIN | | | | | | |
| | 6.5E-01 | -3.55 | -11.89 | 0.00 | 0.00 | 0.00 | -15.60 |
| | 1.58 | -3.55 | -9.43 | 0.00 | 0.00 | 0.00 | -6.29 |
| | 2.50 | -3.55 | -6.97 | 0.00 | 0.00 | 0.00 | 4.707E-01 |
| | 3.42 | -3.55 | -6.28 | 0.00 | 0.00 | 0.00 | -5.86 |
| | 4.35 | -3.55 | -5.59 | 0.00 | 0.00 | 0.00 | -16.52 |
| 27 | ENVOLV MAX | | | | | | |
| | 6.5E-01 | 10.34 | 6.02 | 0.00 | 0.00 | 0.00 | 15.59 |
| | 1.58 | 10.34 | 7.68 | 0.00 | 0.00 | 0.00 | 9.82 |
| | 2.50 | 10.34 | 9.34 | 0.00 | 0.00 | 0.00 | 3.02 |
| | 3.42 | 10.34 | 12.77 | 0.00 | 0.00 | 0.00 | 9.35 |
| | 4.35 | 10.34 | 16.21 | 0.00 | 0.00 | 0.00 | 16.47 |
| 27 | ENVOLV MIN | | | | | | |
| | 6.5E-01 | -8.76 | -14.27 | 0.00 | 0.00 | 0.00 | -19.98 |
| | 1.58 | -8.76 | -11.80 | 0.00 | 0.00 | 0.00 | -8.49 |
| | 2.50 | -8.76 | -9.34 | 0.00 | 0.00 | 0.00 | 4.638E-01 |
| | 3.42 | -8.76 | -8.65 | 0.00 | 0.00 | 0.00 | -8.03 |
| | 4.35 | -8.76 | -7.96 | 0.00 | 0.00 | 0.00 | -20.87 |
| 28 | ENVOLV MAX | | | | | | |
| | 6.5E-01 | 16.05 | 6.48 | 0.00 | 0.00 | 0.00 | 16.49 |
| | 1.58 | 16.05 | 8.14 | 0.00 | 0.00 | 0.00 | 10.31 |
| | 2.50 | 16.05 | 9.80 | 0.00 | 0.00 | 0.00 | 3.05 |
| | 3.42 | 16.05 | 13.24 | 0.00 | 0.00 | 0.00 | 9.77 |
| | 4.35 | 16.05 | 16.67 | 0.00 | 0.00 | 0.00 | 17.30 |

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|----|------------|--------|--------|------|------|------|------------|
| 28 | ENVOLV MIN | | | | | | |
| | 6.5E-01 | -15.53 | -14.73 | 0.00 | 0.00 | 0.00 | -20.85 |
| | 1.58 | -15.53 | -12.27 | 0.00 | 0.00 | 0.00 | -8.95 |
| | 2.50 | -15.53 | -9.80 | 0.00 | 0.00 | 0.00 | 4.364E-01 |
| | 3.42 | -15.53 | -9.12 | 0.00 | 0.00 | 0.00 | -8.41 |
| | 4.35 | -15.53 | -8.43 | 0.00 | 0.00 | 0.00 | -21.66 |
| 29 | ENVOLV MAX | | | | | | |
| | 6.5E-01 | 32.53 | 5.13 | 0.00 | 0.00 | 0.00 | 14.59 |
| | 1.58 | 32.53 | 6.79 | 0.00 | 0.00 | 0.00 | 9.80 |
| | 2.50 | 32.53 | 8.45 | 0.00 | 0.00 | 0.00 | 3.57 |
| | 3.42 | 32.53 | 11.88 | 0.00 | 0.00 | 0.00 | 8.25 |
| | 4.35 | 32.53 | 15.31 | 0.00 | 0.00 | 0.00 | 14.38 |
| 29 | ENVOLV MIN | | | | | | |
| | 6.5E-01 | -40.90 | -13.37 | 0.00 | 0.00 | 0.00 | -18.61 |
| | 1.58 | -40.90 | -10.91 | 0.00 | 0.00 | 0.00 | -8.10 |
| | 2.50 | -40.90 | -8.45 | 0.00 | 0.00 | 0.00 | 3.004E-02 |
| | 3.42 | -40.90 | -7.76 | 0.00 | 0.00 | 0.00 | -6.55 |
| | 4.35 | -40.90 | -7.07 | 0.00 | 0.00 | 0.00 | -18.40 |
| 31 | ENVOLV MAX | | | | | | |
| | 6.5E-01 | 8.13 | 13.70 | 0.00 | 0.00 | 0.00 | 16.91 |
| | 1.19 | 8.13 | 14.67 | 0.00 | 0.00 | 0.00 | 9.60 |
| | 1.73 | 8.13 | 15.77 | 0.00 | 0.00 | 0.00 | 1.66 |
| | 2.26 | 8.13 | 17.76 | 0.00 | 0.00 | 0.00 | 7.90 |
| | 2.80 | 8.13 | 19.76 | 0.00 | 0.00 | 0.00 | 15.69 |
| 31 | ENVOLV MIN | | | | | | |
| | 6.5E-01 | -7.31 | -18.14 | 0.00 | 0.00 | 0.00 | -17.89 |
| | 1.19 | -7.31 | -16.71 | 0.00 | 0.00 | 0.00 | -8.84 |
| | 1.73 | -7.31 | -15.41 | 0.00 | 0.00 | 0.00 | -4.516E-01 |
| | 2.26 | -7.31 | -15.01 | 0.00 | 0.00 | 0.00 | -7.52 |
| | 2.80 | -7.31 | -14.61 | 0.00 | 0.00 | 0.00 | -17.43 |
| 32 | ENVOLV MAX | | | | | | |
| | 6.5E-01 | 11.09 | 18.21 | 0.00 | 0.00 | 0.00 | 21.67 |
| | 1.19 | 11.09 | 19.18 | 0.00 | 0.00 | 0.00 | 12.09 |
| | 1.73 | 11.09 | 20.53 | 0.00 | 0.00 | 0.00 | 1.60 |
| | 2.26 | 11.09 | 22.52 | 0.00 | 0.00 | 0.00 | 10.16 |
| | 2.80 | 11.09 | 24.52 | 0.00 | 0.00 | 0.00 | 20.28 |
| 32 | ENVOLV MIN | | | | | | |
| | 6.5E-01 | -9.72 | -22.04 | 0.00 | 0.00 | 0.00 | -21.93 |
| | 1.19 | -9.72 | -20.61 | 0.00 | 0.00 | 0.00 | -10.94 |
| | 1.73 | -9.72 | -19.56 | 0.00 | 0.00 | 0.00 | -3.213E-01 |
| | 2.26 | -9.72 | -19.16 | 0.00 | 0.00 | 0.00 | -10.04 |
| | 2.80 | -9.72 | -18.76 | 0.00 | 0.00 | 0.00 | -22.62 |
| 33 | ENVOLV MAX | | | | | | |
| | 6.5E-01 | 14.95 | 16.85 | 0.00 | 0.00 | 0.00 | 20.20 |
| | 1.19 | 14.95 | 17.81 | 0.00 | 0.00 | 0.00 | 11.41 |
| | 1.73 | 14.95 | 19.20 | 0.00 | 0.00 | 0.00 | 1.62 |
| | 2.26 | 14.95 | 21.20 | 0.00 | 0.00 | 0.00 | 9.44 |
| | 2.80 | 14.95 | 23.20 | 0.00 | 0.00 | 0.00 | 18.78 |
| 33 | ENVOLV MIN | | | | | | |
| | 6.5E-01 | -15.09 | -20.56 | 0.00 | 0.00 | 0.00 | -20.25 |
| | 1.19 | -15.09 | -19.13 | 0.00 | 0.00 | 0.00 | -10.12 |
| | 1.73 | -15.09 | -18.12 | 0.00 | 0.00 | 0.00 | -2.682E-01 |
| | 2.26 | -15.09 | -17.72 | 0.00 | 0.00 | 0.00 | -9.31 |
| | 2.80 | -15.09 | -17.32 | 0.00 | 0.00 | 0.00 | -21.17 |
| 34 | ENVOLV MAX | | | | | | |
| | 6.5E-01 | 18.76 | 10.81 | 0.00 | 0.00 | 0.00 | 12.79 |
| | 1.19 | 18.76 | 11.77 | 0.00 | 0.00 | 0.00 | 6.97 |
| | 1.73 | 18.76 | 12.78 | 0.00 | 0.00 | 0.00 | 1.12 |
| | 2.26 | 18.76 | 14.70 | 0.00 | 0.00 | 0.00 | 7.51 |
| | 2.80 | 18.76 | 16.69 | 0.00 | 0.00 | 0.00 | 13.75 |
| 34 | ENVOLV MIN | | | | | | |
| | 6.5E-01 | -23.12 | -15.58 | 0.00 | 0.00 | 0.00 | -14.14 |
| | 1.19 | -23.12 | -14.15 | 0.00 | 0.00 | 0.00 | -6.38 |
| | 1.73 | -23.12 | -12.74 | 0.00 | 0.00 | 0.00 | 1.401E-01 |
| | 2.26 | -23.12 | -12.28 | 0.00 | 0.00 | 0.00 | -6.96 |
| | 2.80 | -23.12 | -11.88 | 0.00 | 0.00 | 0.00 | -15.14 |

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|----|------------|-------|-------|------|------|------|-----------|
| 35 | ENVOLV MAX | | | | | | |
| | 0.00 | 3.86 | 3.60 | 0.00 | 0.00 | 0.00 | 7.14 |
| | 7.0E-01 | 3.86 | 4.78 | 0.00 | 0.00 | 0.00 | 4.56 |
| | 1.40 | 3.86 | 5.96 | 0.00 | 0.00 | 0.00 | 1.86 |
| | 2.10 | 3.86 | 8.20 | 0.00 | 0.00 | 0.00 | 5.34 |
| | 2.80 | 3.86 | 10.56 | 0.00 | 0.00 | 0.00 | 8.61 |
| 35 | ENVOLV MIN | | | | | | |
| | 0.00 | -4.93 | -9.46 | 0.00 | 0.00 | 0.00 | -9.41 |
| | 7.0E-01 | -4.93 | -7.84 | 0.00 | 0.00 | 0.00 | -3.71 |
| | 1.40 | -4.93 | -6.21 | 0.00 | 0.00 | 0.00 | 4.497E-01 |
| | 2.10 | -4.93 | -5.64 | 0.00 | 0.00 | 0.00 | -4.14 |
| | 2.80 | -4.93 | -5.20 | 0.00 | 0.00 | 0.00 | -10.19 |

ANALISIS DE PORTICO PLANO EN LA DIRECCION X-X, PORTICO EJE#B

F R A M E E L E M E N T F O R C E S

| FRAME | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|--------|------|------------|------------|------|------|------|------------|
| 1 | ENVOLV | MAX | | | | | | |
| | | 0.00 | -1.98 | 3.57 | 0.00 | 0.00 | 0.00 | 11.04 |
| | | 1.88 | -3.87 | 3.57 | 0.00 | 0.00 | 0.00 | 4.70 |
| | | 3.75 | -5.76 | 3.57 | 0.00 | 0.00 | 0.00 | 5.87 |
| 1 | ENVOLV | MIN | | | | | | |
| | | 0.00 | -294.20 | -5.01 | 0.00 | 0.00 | 0.00 | -12.93 |
| | | 1.88 | -266.66 | -5.01 | 0.00 | 0.00 | 0.00 | -3.88 |
| | | 3.75 | -239.12 | -5.01 | 0.00 | 0.00 | 0.00 | -2.35 |
| 2 | ENVOLV | MAX | | | | | | |
| | | 0.00 | -1.52 | 9.946E-01 | 0.00 | 0.00 | 0.00 | 1.28 |
| | | 1.63 | -3.16 | 9.946E-01 | 0.00 | 0.00 | 0.00 | 4.016E-01 |
| | | 3.25 | -4.79 | 9.946E-01 | 0.00 | 0.00 | 0.00 | 6.56 |
| 2 | ENVOLV | MIN | | | | | | |
| | | 0.00 | -229.60 | -3.92 | 0.00 | 0.00 | 0.00 | -6.18 |
| | | 1.63 | -205.73 | -3.92 | 0.00 | 0.00 | 0.00 | -5.693E-01 |
| | | 3.25 | -181.86 | -3.92 | 0.00 | 0.00 | 0.00 | -1.96 |
| 3 | ENVOLV | MAX | | | | | | |
| | | 0.00 | -5.381E-01 | 9.047E-01 | 0.00 | 0.00 | 0.00 | 1.02 |
| | | 1.63 | -2.18 | 9.047E-01 | 0.00 | 0.00 | 0.00 | 6.964E-01 |
| | | 3.25 | -3.81 | 9.047E-01 | 0.00 | 0.00 | 0.00 | 6.78 |
| 3 | ENVOLV | MIN | | | | | | |
| | | 0.00 | -172.03 | -3.87 | 0.00 | 0.00 | 0.00 | -5.79 |
| | | 1.63 | -148.16 | -3.87 | 0.00 | 0.00 | 0.00 | -6.428E-01 |
| | | 3.25 | -124.30 | -3.87 | 0.00 | 0.00 | 0.00 | -1.92 |
| 4 | ENVOLV | MAX | | | | | | |
| | | 0.00 | 1.891E-01 | 4.390E-01 | 0.00 | 0.00 | 0.00 | 6.378E-02 |
| | | 1.63 | -1.45 | 4.390E-01 | 0.00 | 0.00 | 0.00 | 7.836E-01 |
| | | 3.25 | -3.09 | 4.390E-01 | 0.00 | 0.00 | 0.00 | 6.22 |
| 4 | ENVOLV | MIN | | | | | | |
| | | 0.00 | -114.28 | -3.48 | 0.00 | 0.00 | 0.00 | -5.09 |
| | | 1.63 | -90.41 | -3.48 | 0.00 | 0.00 | 0.00 | -8.794E-01 |
| | | 3.25 | -66.54 | -3.48 | 0.00 | 0.00 | 0.00 | -1.36 |
| 5 | ENVOLV | MAX | | | | | | |
| | | 0.00 | 5.975E-01 | -1.531E-01 | 0.00 | 0.00 | 0.00 | -5.397E-01 |
| | | 1.63 | -1.04 | -1.531E-01 | 0.00 | 0.00 | 0.00 | 1.56 |
| | | 3.25 | -2.68 | -1.531E-01 | 0.00 | 0.00 | 0.00 | 8.01 |
| 5 | ENVOLV | MIN | | | | | | |
| | | 0.00 | -56.38 | -3.99 | 0.00 | 0.00 | 0.00 | -5.10 |
| | | 1.63 | -32.51 | -3.99 | 0.00 | 0.00 | 0.00 | -2.909E-01 |
| | | 3.25 | -8.64 | -3.99 | 0.00 | 0.00 | 0.00 | -4.207E-02 |
| 6 | ENVOLV | MAX | | | | | | |
| | | 0.00 | -9.96 | 2.35 | 0.00 | 0.00 | 0.00 | 4.88 |
| | | 1.88 | -10.37 | 2.35 | 0.00 | 0.00 | 0.00 | 5.928E-01 |
| | | 3.75 | -10.79 | 2.35 | 0.00 | 0.00 | 0.00 | 4.12 |
| 6 | ENVOLV | MIN | | | | | | |
| | | 0.00 | -143.68 | -2.43 | 0.00 | 0.00 | 0.00 | -4.98 |
| | | 1.88 | -137.65 | -2.43 | 0.00 | 0.00 | 0.00 | -5.573E-01 |
| | | 3.75 | -131.63 | -2.43 | 0.00 | 0.00 | 0.00 | -3.94 |
| 7 | ENVOLV | MAX | | | | | | |
| | | 0.00 | -8.18 | 3.09 | 0.00 | 0.00 | 0.00 | 5.16 |
| | | 1.63 | -8.54 | 3.09 | 0.00 | 0.00 | 0.00 | 2.604E-01 |
| | | 3.25 | -8.90 | 3.09 | 0.00 | 0.00 | 0.00 | 5.45 |
| 7 | ENVOLV | MIN | | | | | | |
| | | 0.00 | -112.87 | -3.30 | 0.00 | 0.00 | 0.00 | -5.48 |
| | | 1.63 | -107.65 | -3.30 | 0.00 | 0.00 | 0.00 | -1.921E-01 |
| | | 3.25 | -102.43 | -3.30 | 0.00 | 0.00 | 0.00 | -4.99 |

| | | | | | | | | | |
|----|--------|-----|------|---------|-------|------|------|------|------------|
| 8 | ENVOLV | MAX | 0.00 | -6.11 | 2.65 | 0.00 | 0.00 | 0.00 | 4.23 |
| | | | 1.63 | -6.47 | 2.65 | 0.00 | 0.00 | 0.00 | 2.514E-01 |
| | | | 3.25 | -6.83 | 2.65 | 0.00 | 0.00 | 0.00 | 5.09 |
| 8 | ENVOLV | MIN | 0.00 | -83.97 | -3.04 | 0.00 | 0.00 | 0.00 | -4.91 |
| | | | 1.63 | -78.75 | -3.04 | 0.00 | 0.00 | 0.00 | -2.222E-01 |
| | | | 3.25 | -73.53 | -3.04 | 0.00 | 0.00 | 0.00 | -4.37 |
| 9 | ENVOLV | MAX | 0.00 | -3.98 | 2.19 | 0.00 | 0.00 | 0.00 | 3.49 |
| | | | 1.63 | -4.34 | 2.19 | 0.00 | 0.00 | 0.00 | 2.600E-01 |
| | | | 3.25 | -4.70 | 2.19 | 0.00 | 0.00 | 0.00 | 4.52 |
| 9 | ENVOLV | MIN | 0.00 | -55.27 | -2.71 | 0.00 | 0.00 | 0.00 | -4.33 |
| | | | 1.63 | -50.05 | -2.71 | 0.00 | 0.00 | 0.00 | -2.213E-01 |
| | | | 3.25 | -44.83 | -2.71 | 0.00 | 0.00 | 0.00 | -3.63 |
| 10 | ENVOLV | MAX | 0.00 | -1.74 | 1.91 | 0.00 | 0.00 | 0.00 | 2.84 |
| | | | 1.63 | -2.10 | 1.91 | 0.00 | 0.00 | 0.00 | 4.329E-01 |
| | | | 3.25 | -2.46 | 1.91 | 0.00 | 0.00 | 0.00 | 4.29 |
| 10 | ENVOLV | MIN | 0.00 | -26.71 | -2.45 | 0.00 | 0.00 | 0.00 | -3.74 |
| | | | 1.63 | -21.49 | -2.45 | 0.00 | 0.00 | 0.00 | -3.918E-01 |
| | | | 3.25 | -16.27 | -2.45 | 0.00 | 0.00 | 0.00 | -3.37 |
| 11 | ENVOLV | MAX | 0.00 | -16.20 | 2.43 | 0.00 | 0.00 | 0.00 | 4.97 |
| | | | 1.88 | -16.61 | 2.43 | 0.00 | 0.00 | 0.00 | 5.496E-01 |
| | | | 3.75 | -17.02 | 2.43 | 0.00 | 0.00 | 0.00 | 3.95 |
| 11 | ENVOLV | MIN | 0.00 | -143.68 | -2.35 | 0.00 | 0.00 | 0.00 | -4.87 |
| | | | 1.88 | -137.65 | -2.35 | 0.00 | 0.00 | 0.00 | -5.851E-01 |
| | | | 3.75 | -131.63 | -2.35 | 0.00 | 0.00 | 0.00 | -4.12 |
| 12 | ENVOLV | MAX | 0.00 | -12.57 | 3.36 | 0.00 | 0.00 | 0.00 | 5.56 |
| | | | 1.63 | -12.92 | 3.36 | 0.00 | 0.00 | 0.00 | 1.789E-01 |
| | | | 3.25 | -13.28 | 3.36 | 0.00 | 0.00 | 0.00 | 5.10 |
| 12 | ENVOLV | MIN | 0.00 | -112.87 | -3.15 | 0.00 | 0.00 | 0.00 | -5.24 |
| | | | 1.63 | -107.65 | -3.15 | 0.00 | 0.00 | 0.00 | -2.604E-01 |
| | | | 3.25 | -102.43 | -3.15 | 0.00 | 0.00 | 0.00 | -5.56 |
| 13 | ENVOLV | MAX | 0.00 | -9.10 | 3.13 | 0.00 | 0.00 | 0.00 | 5.05 |
| | | | 1.63 | -9.45 | 3.13 | 0.00 | 0.00 | 0.00 | 2.288E-01 |
| | | | 3.25 | -9.81 | 3.13 | 0.00 | 0.00 | 0.00 | 4.52 |
| 13 | ENVOLV | MIN | 0.00 | -83.97 | -2.74 | 0.00 | 0.00 | 0.00 | -4.37 |
| | | | 1.63 | -78.75 | -2.74 | 0.00 | 0.00 | 0.00 | -2.581E-01 |
| | | | 3.25 | -73.53 | -2.74 | 0.00 | 0.00 | 0.00 | -5.25 |
| 14 | ENVOLV | MAX | 0.00 | -5.77 | 2.83 | 0.00 | 0.00 | 0.00 | 4.53 |
| | | | 1.63 | -6.13 | 2.83 | 0.00 | 0.00 | 0.00 | 2.349E-01 |
| | | | 3.25 | -6.49 | 2.83 | 0.00 | 0.00 | 0.00 | 3.85 |
| 14 | ENVOLV | MIN | 0.00 | -55.27 | -2.32 | 0.00 | 0.00 | 0.00 | -3.68 |
| | | | 1.63 | -50.05 | -2.32 | 0.00 | 0.00 | 0.00 | -2.736E-01 |
| | | | 3.25 | -44.83 | -2.32 | 0.00 | 0.00 | 0.00 | -4.74 |
| 15 | ENVOLV | MAX | 0.00 | -2.65 | 2.50 | 0.00 | 0.00 | 0.00 | 3.83 |
| | | | 1.63 | -3.00 | 2.50 | 0.00 | 0.00 | 0.00 | 3.916E-01 |
| | | | 3.25 | -3.36 | 2.50 | 0.00 | 0.00 | 0.00 | 3.45 |
| 15 | ENVOLV | MIN | 0.00 | -26.71 | -1.96 | 0.00 | 0.00 | 0.00 | -2.92 |
| | | | 1.63 | -21.49 | -1.96 | 0.00 | 0.00 | 0.00 | -4.326E-01 |
| | | | 3.25 | -16.27 | -1.96 | 0.00 | 0.00 | 0.00 | -4.37 |

| | | | | | | | | | |
|----|--------|-----|------|------------|------------|------|------|------|------------|
| 16 | ENVOLV | MAX | 0.00 | 17.58 | 5.20 | 0.00 | 0.00 | 0.00 | 13.07 |
| | | | 1.88 | 15.69 | 5.20 | 0.00 | 0.00 | 0.00 | 3.67 |
| | | | 3.75 | 13.80 | 5.20 | 0.00 | 0.00 | 0.00 | 2.90 |
| 16 | ENVOLV | MIN | 0.00 | -294.20 | -3.75 | 0.00 | 0.00 | 0.00 | -11.18 |
| | | | 1.88 | -266.72 | -3.75 | 0.00 | 0.00 | 0.00 | -4.49 |
| | | | 3.75 | -239.72 | -3.75 | 0.00 | 0.00 | 0.00 | -6.43 |
| 17 | ENVOLV | MAX | 0.00 | 13.16 | 4.67 | 0.00 | 0.00 | 0.00 | 7.47 |
| | | | 1.63 | 11.53 | 4.67 | 0.00 | 0.00 | 0.00 | 4.951E-01 |
| | | | 3.25 | 9.89 | 4.67 | 0.00 | 0.00 | 0.00 | 3.10 |
| 17 | ENVOLV | MIN | 0.00 | -229.60 | -1.75 | 0.00 | 0.00 | 0.00 | -2.57 |
| | | | 1.63 | -205.73 | -1.75 | 0.00 | 0.00 | 0.00 | -3.273E-01 |
| | | | 3.25 | -182.06 | -1.75 | 0.00 | 0.00 | 0.00 | -7.70 |
| 18 | ENVOLV | MAX | 0.00 | 9.33 | 4.47 | 0.00 | 0.00 | 0.00 | 6.75 |
| | | | 1.63 | 7.69 | 4.47 | 0.00 | 0.00 | 0.00 | 6.602E-01 |
| | | | 3.25 | 6.05 | 4.47 | 0.00 | 0.00 | 0.00 | 2.92 |
| 18 | ENVOLV | MIN | 0.00 | -172.03 | -1.51 | 0.00 | 0.00 | 0.00 | -1.99 |
| | | | 1.63 | -148.16 | -1.51 | 0.00 | 0.00 | 0.00 | -7.138E-01 |
| | | | 3.25 | -124.30 | -1.51 | 0.00 | 0.00 | 0.00 | -7.78 |
| 19 | ENVOLV | MAX | 0.00 | 5.82 | 4.29 | 0.00 | 0.00 | 0.00 | 6.32 |
| | | | 1.63 | 4.18 | 4.29 | 0.00 | 0.00 | 0.00 | 9.663E-01 |
| | | | 3.25 | 2.54 | 4.29 | 0.00 | 0.00 | 0.00 | 2.76 |
| 19 | ENVOLV | MIN | 0.00 | -114.28 | -1.25 | 0.00 | 0.00 | 0.00 | -1.29 |
| | | | 1.63 | -90.41 | -1.25 | 0.00 | 0.00 | 0.00 | -8.705E-01 |
| | | | 3.25 | -66.54 | -1.25 | 0.00 | 0.00 | 0.00 | -7.62 |
| 20 | ENVOLV | MAX | 0.00 | 2.73 | 4.75 | 0.00 | 0.00 | 0.00 | 5.74 |
| | | | 1.63 | 1.09 | 4.75 | 0.00 | 0.00 | 0.00 | 7.358E-01 |
| | | | 3.25 | -5.439E-01 | 4.75 | 0.00 | 0.00 | 0.00 | 1.72 |
| 20 | ENVOLV | MIN | 0.00 | -56.38 | -6.076E-01 | 0.00 | 0.00 | 0.00 | -2.515E-01 |
| | | | 1.63 | -32.51 | -6.076E-01 | 0.00 | 0.00 | 0.00 | -2.00 |
| | | | 3.25 | -8.83 | -6.076E-01 | 0.00 | 0.00 | 0.00 | -9.70 |
| 21 | ENVOLV | MAX | 0.00 | 1.38 | -1.63 | 0.00 | 0.00 | 0.00 | 3.62 |
| | | | 1.25 | 1.38 | 3.879E-01 | 0.00 | 0.00 | 0.00 | 4.90 |
| | | | 2.50 | 1.38 | 2.43 | 0.00 | 0.00 | 0.00 | 4.56 |
| | | | 3.75 | 1.38 | 6.53 | 0.00 | 0.00 | 0.00 | 3.06 |
| | | | 5.00 | 1.38 | 10.70 | 0.00 | 0.00 | 0.00 | 3.86 |
| 21 | ENVOLV | MIN | 0.00 | 2.360E-01 | -9.52 | 0.00 | 0.00 | 0.00 | -12.05 |
| | | | 1.25 | 2.360E-01 | -5.55 | 0.00 | 0.00 | 0.00 | -3.71 |
| | | | 2.50 | 2.360E-01 | -2.55 | 0.00 | 0.00 | 0.00 | -7.893E-02 |
| | | | 3.75 | 2.360E-01 | -1.57 | 0.00 | 0.00 | 0.00 | -1.61 |
| | | | 5.00 | 2.360E-01 | -6.848E-01 | 0.00 | 0.00 | 0.00 | -11.76 |
| 22 | ENVOLV | MAX | 0.00 | 1.01 | -1.80 | 0.00 | 0.00 | 0.00 | 2.98 |
| | | | 1.25 | 1.01 | 2.155E-01 | 0.00 | 0.00 | 0.00 | 4.26 |
| | | | 2.50 | 1.01 | 2.23 | 0.00 | 0.00 | 0.00 | 4.31 |
| | | | 3.75 | 1.01 | 6.22 | 0.00 | 0.00 | 0.00 | 3.35 |
| | | | 5.00 | 1.01 | 10.39 | 0.00 | 0.00 | 0.00 | 4.04 |
| 22 | ENVOLV | MIN | 0.00 | -9.691E-01 | -9.83 | 0.00 | 0.00 | 0.00 | -12.34 |
| | | | 1.25 | -9.691E-01 | -5.71 | 0.00 | 0.00 | 0.00 | -3.59 |
| | | | 2.50 | -9.691E-01 | -2.66 | 0.00 | 0.00 | 0.00 | 6.554E-02 |
| | | | 3.75 | -9.691E-01 | -1.59 | 0.00 | 0.00 | 0.00 | -1.60 |
| | | | 5.00 | -9.691E-01 | -7.010E-01 | 0.00 | 0.00 | 0.00 | -11.24 |

| | | | | | | | |
|----|--------|------|------------|------------|------|------|------|
| 23 | ENVOLV | MAX | | | | | |
| | | 0.00 | 1.10 | -2.17 | 0.00 | 0.00 | 0.00 |
| | | 1.25 | 1.10 | -1.558E-01 | 0.00 | 0.00 | 0.00 |
| | | 2.50 | 1.10 | 1.86 | 0.00 | 0.00 | 0.00 |
| | | 3.75 | 1.10 | 5.76 | 0.00 | 0.00 | 0.00 |
| | | 5.00 | 1.10 | 9.93 | 0.00 | 0.00 | 0.00 |
| 23 | ENVOLV | MIN | | | | | |
| | | 0.00 | -1.02 | -10.02 | 0.00 | 0.00 | 0.00 |
| | | 1.25 | -1.02 | -5.54 | 0.00 | 0.00 | 0.00 |
| | | 2.50 | -1.02 | -2.50 | 0.00 | 0.00 | 0.00 |
| | | 3.75 | -1.02 | -1.34 | 0.00 | 0.00 | 0.00 |
| | | 5.00 | -1.02 | -4.482E-01 | 0.00 | 0.00 | 0.00 |
| 24 | ENVOLV | MAX | | | | | |
| | | 0.00 | 1.71 | -2.58 | 0.00 | 0.00 | 0.00 |
| | | 1.25 | 1.71 | -5.658E-01 | 0.00 | 0.00 | 0.00 |
| | | 2.50 | 1.71 | 1.45 | 0.00 | 0.00 | 0.00 |
| | | 3.75 | 1.71 | 5.29 | 0.00 | 0.00 | 0.00 |
| | | 5.00 | 1.71 | 9.46 | 0.00 | 0.00 | 0.00 |
| 24 | ENVOLV | MIN | | | | | |
| | | 0.00 | -6.078E-01 | -10.16 | 0.00 | 0.00 | 0.00 |
| | | 1.25 | -6.078E-01 | -5.45 | 0.00 | 0.00 | 0.00 |
| | | 2.50 | -6.078E-01 | -2.24 | 0.00 | 0.00 | 0.00 |
| | | 3.75 | -6.078E-01 | -1.02 | 0.00 | 0.00 | 0.00 |
| | | 5.00 | -6.078E-01 | -1.294E-01 | 0.00 | 0.00 | 0.00 |
| 25 | ENVOLV | MAX | | | | | |
| | | 0.00 | 4.79 | -2.68 | 0.00 | 0.00 | 0.00 |
| | | 1.25 | 4.79 | -9.118E-01 | 0.00 | 0.00 | 0.00 |
| | | 2.50 | 4.79 | 9.670E-01 | 0.00 | 0.00 | 0.00 |
| | | 3.75 | 4.79 | 4.56 | 0.00 | 0.00 | 0.00 |
| | | 5.00 | 4.79 | 8.31 | 0.00 | 0.00 | 0.00 |
| 25 | ENVOLV | MIN | | | | | |
| | | 0.00 | -8.93 | -8.64 | 0.00 | 0.00 | 0.00 |
| | | 1.25 | -8.93 | -4.49 | 0.00 | 0.00 | 0.00 |
| | | 2.50 | -8.93 | -1.33 | 0.00 | 0.00 | 0.00 |
| | | 3.75 | -8.93 | -4.173E-01 | 0.00 | 0.00 | 0.00 |
| | | 5.00 | -8.93 | 3.365E-01 | 0.00 | 0.00 | 0.00 |
| 26 | ENVOLV | MAX | | | | | |
| | | 0.00 | 1.83 | -2.51 | 0.00 | 0.00 | 0.00 |
| | | 1.25 | 1.83 | -4.997E-01 | 0.00 | 0.00 | 0.00 |
| | | 2.50 | 1.83 | 1.51 | 0.00 | 0.00 | 0.00 |
| | | 3.75 | 1.83 | 5.69 | 0.00 | 0.00 | 0.00 |
| | | 5.00 | 1.83 | 9.86 | 0.00 | 0.00 | 0.00 |
| 26 | ENVOLV | MIN | | | | | |
| | | 0.00 | -2.006E-01 | -9.43 | 0.00 | 0.00 | 0.00 |
| | | 1.25 | -2.006E-01 | -4.71 | 0.00 | 0.00 | 0.00 |
| | | 2.50 | -2.006E-01 | -1.51 | 0.00 | 0.00 | 0.00 |
| | | 3.75 | -2.006E-01 | -6.253E-01 | 0.00 | 0.00 | 0.00 |
| | | 5.00 | -2.006E-01 | 2.634E-01 | 0.00 | 0.00 | 0.00 |
| 27 | ENVOLV | MAX | | | | | |
| | | 0.00 | 7.338E-01 | -2.32 | 0.00 | 0.00 | 0.00 |
| | | 1.25 | 7.338E-01 | -3.082E-01 | 0.00 | 0.00 | 0.00 |
| | | 2.50 | 7.338E-01 | 1.71 | 0.00 | 0.00 | 0.00 |
| | | 3.75 | 7.338E-01 | 5.88 | 0.00 | 0.00 | 0.00 |
| | | 5.00 | 7.338E-01 | 10.05 | 0.00 | 0.00 | 0.00 |
| 27 | ENVOLV | MIN | | | | | |
| | | 0.00 | -5.203E-01 | -9.43 | 0.00 | 0.00 | 0.00 |
| | | 1.25 | -5.203E-01 | -4.75 | 0.00 | 0.00 | 0.00 |
| | | 2.50 | -5.203E-01 | -1.71 | 0.00 | 0.00 | 0.00 |
| | | 3.75 | -5.203E-01 | -8.168E-01 | 0.00 | 0.00 | 0.00 |
| | | 5.00 | -5.203E-01 | 7.199E-02 | 0.00 | 0.00 | 0.00 |
| 28 | ENVOLV | MAX | | | | | |
| | | 0.00 | 7.701E-01 | -2.51 | 0.00 | 0.00 | 0.00 |
| | | 1.25 | 7.701E-01 | -4.935E-01 | 0.00 | 0.00 | 0.00 |
| | | 2.50 | 7.701E-01 | 1.52 | 0.00 | 0.00 | 0.00 |
| | | 3.75 | 7.701E-01 | 5.69 | 0.00 | 0.00 | 0.00 |

| | | | | | | | | |
|----|------------|------|------------|------------|------|------|------|------------|
| 28 | ENVOLV MIN | 5.00 | 7.701E-01 | 9.86 | 0.00 | 0.00 | 0.00 | 2.37 |
| | | 0.00 | -5.666E-01 | -9.43 | 0.00 | 0.00 | 0.00 | -8.72 |
| | | 1.25 | -5.666E-01 | -4.71 | 0.00 | 0.00 | 0.00 | -1.67 |
| | | 2.50 | -5.666E-01 | -1.52 | 0.00 | 0.00 | 0.00 | 7.864E-01 |
| | | 3.75 | -5.666E-01 | -6.315E-01 | 0.00 | 0.00 | 0.00 | -1.37 |
| | | 5.00 | -5.666E-01 | 2.572E-01 | 0.00 | 0.00 | 0.00 | -10.53 |
| 29 | ENVOLV MAX | 0.00 | 1.45 | -2.72 | 0.00 | 0.00 | 0.00 | 5.461E-02 |
| | | 1.25 | 1.45 | -7.077E-01 | 0.00 | 0.00 | 0.00 | 2.79 |
| | | 2.50 | 1.45 | 1.31 | 0.00 | 0.00 | 0.00 | 4.25 |
| | | 3.75 | 1.45 | 5.48 | 0.00 | 0.00 | 0.00 | 2.47 |
| | | 5.00 | 1.45 | 9.65 | 0.00 | 0.00 | 0.00 | 1.84 |
| 29 | ENVOLV MIN | 0.00 | -3.251E-01 | -9.43 | 0.00 | 0.00 | 0.00 | -8.14 |
| | | 1.25 | -3.251E-01 | -4.71 | 0.00 | 0.00 | 0.00 | -1.39 |
| | | 2.50 | -3.251E-01 | -1.31 | 0.00 | 0.00 | 0.00 | 7.939E-01 |
| | | 3.75 | -3.251E-01 | -4.173E-01 | 0.00 | 0.00 | 0.00 | -1.07 |
| | | 5.00 | -3.251E-01 | 4.715E-01 | 0.00 | 0.00 | 0.00 | -9.93 |
| 30 | ENVOLV MAX | 0.00 | 2.57 | -2.12 | 0.00 | 0.00 | 0.00 | -1.42 |
| | | 1.25 | 2.57 | -1.26 | 0.00 | 0.00 | 0.00 | 1.90 |
| | | 2.50 | 2.57 | 6.159E-01 | 0.00 | 0.00 | 0.00 | 3.86 |
| | | 3.75 | 2.57 | 4.37 | 0.00 | 0.00 | 0.00 | 1.57 |
| | | 5.00 | 2.57 | 8.30 | 0.00 | 0.00 | 0.00 | 3.592E-01 |
| 30 | ENVOLV MIN | 0.00 | -7.25 | -8.30 | 0.00 | 0.00 | 0.00 | -6.52 |
| | | 1.25 | -7.25 | -4.15 | 0.00 | 0.00 | 0.00 | -5.373E-01 |
| | | 2.50 | -7.25 | -6.159E-01 | 0.00 | 0.00 | 0.00 | 7.037E-01 |
| | | 3.75 | -7.25 | 1.378E-01 | 0.00 | 0.00 | 0.00 | -2.108E-01 |
| | | 5.00 | -7.25 | 8.916E-01 | 0.00 | 0.00 | 0.00 | -7.44 |
| 31 | ENVOLV MAX | 0.00 | 2.64 | -1.55 | 0.00 | 0.00 | 0.00 | 2.09 |
| | | 1.25 | 2.64 | 4.642E-01 | 0.00 | 0.00 | 0.00 | 3.38 |
| | | 2.50 | 2.64 | 2.56 | 0.00 | 0.00 | 0.00 | 4.18 |
| | | 3.75 | 2.64 | 6.69 | 0.00 | 0.00 | 0.00 | 4.62 |
| | | 5.00 | 2.64 | 10.87 | 0.00 | 0.00 | 0.00 | 5.47 |
| 31 | ENVOLV MIN | 0.00 | -1.16 | -9.33 | 0.00 | 0.00 | 0.00 | -9.99 |
| | | 1.25 | -1.16 | -5.42 | 0.00 | 0.00 | 0.00 | +1.93 |
| | | 2.50 | -1.16 | -2.45 | 0.00 | 0.00 | 0.00 | 9.259E-01 |
| | | 3.75 | -1.16 | -1.53 | 0.00 | 0.00 | 0.00 | -3.43 |
| | | 5.00 | -1.16 | -6.398E-01 | 0.00 | 0.00 | 0.00 | -13.90 |
| 32 | ENVOLV MAX | 0.00 | 2.647E-01 | -1.44 | 0.00 | 0.00 | 0.00 | 2.46 |
| | | 1.25 | 2.647E-01 | 5.714E-01 | 0.00 | 0.00 | 0.00 | 3.75 |
| | | 2.50 | 2.647E-01 | 2.77 | 0.00 | 0.00 | 0.00 | 4.07 |
| | | 3.75 | 2.647E-01 | 6.94 | 0.00 | 0.00 | 0.00 | 4.13 |
| | | 5.00 | 2.647E-01 | 11.11 | 0.00 | 0.00 | 0.00 | 5.09 |
| 32 | ENVOLV MIN | 0.00 | -2.219E-01 | -9.03 | 0.00 | 0.00 | 0.00 | -9.66 |
| | | 1.25 | -2.219E-01 | -5.20 | 0.00 | 0.00 | 0.00 | -2.00 |
| | | 2.50 | -2.219E-01 | -2.34 | 0.00 | 0.00 | 0.00 | 1.03 |
| | | 3.75 | -2.219E-01 | -1.45 | 0.00 | 0.00 | 0.00 | -3.46 |
| | | 5.00 | -2.219E-01 | -5.584E-01 | 0.00 | 0.00 | 0.00 | -14.45 |
| 33 | ENVOLV MAX | 0.00 | 3.001E-01 | -1.65 | 0.00 | 0.00 | 0.00 | 2.00 |
| | | 1.25 | 3.001E-01 | 3.636E-01 | 0.00 | 0.00 | 0.00 | 3.65 |
| | | 2.50 | 3.001E-01 | 2.65 | 0.00 | 0.00 | 0.00 | 4.06 |
| | | 3.75 | 3.001E-01 | 6.82 | 0.00 | 0.00 | 0.00 | 3.56 |
| | | 5.00 | 3.001E-01 | 10.99 | 0.00 | 0.00 | 0.00 | 4.21 |
| 33 | ENVOLV MIN | 0.00 | -2.196E-01 | -8.84 | 0.00 | 0.00 | 0.00 | -8.70 |
| | | 1.25 | -2.196E-01 | -4.79 | 0.00 | 0.00 | 0.00 | -1.66 |
| | | 2.50 | -2.196E-01 | -2.01 | 0.00 | 0.00 | 0.00 | 1.09 |
| | | 3.75 | -2.196E-01 | -1.12 | 0.00 | 0.00 | 0.00 | -3.14 |

| | | | | | | | |
|----|------------|------------|------------|------|------|------|------------|
| | 5.00 | -2.196E-01 | -2.322E-01 | 0.00 | 0.00 | 0.00 | -14.10 |
| 34 | ENVOLV MAX | | | | | | |
| | 0.00 | 1.08 | -1.98 | 0.00 | 0.00 | 0.00 | 1.29 |
| | 1.25 | 1.08 | 3.549E-02 | 0.00 | 0.00 | 0.00 | 3.40 |
| | 2.50 | 1.08 | 2.38 | 0.00 | 0.00 | 0.00 | 4.00 |
| | 3.75 | 1.08 | 6.56 | 0.00 | 0.00 | 0.00 | 2.83 |
| | 5.00 | 1.08 | 10.73 | 0.00 | 0.00 | 0.00 | 3.01 |
| 34 | ENVOLV MIN | | | | | | |
| | 0.00 | 1.801E-02 | -8.69 | 0.00 | 0.00 | 0.00 | -7.66 |
| | 1.25 | 1.801E-02 | -4.30 | 0.00 | 0.00 | 0.00 | -1.28 |
| | 2.50 | 1.801E-02 | -1.59 | 0.00 | 0.00 | 0.00 | 1.20 |
| | 3.75 | 1.801E-02 | -7.015E-01 | 0.00 | 0.00 | 0.00 | -2.67 |
| | 5.00 | 1.801E-02 | 1.872E-01 | 0.00 | 0.00 | 0.00 | -13.36 |
| 35 | ENVOLV MAX | | | | | | |
| | 0.00 | 6.076E-01 | -2.47 | 0.00 | 0.00 | 0.00 | -5.239E-01 |
| | 1.25 | 6.076E-01 | -7.111E-01 | 0.00 | 0.00 | 0.00 | 2.31 |
| | 2.50 | 6.076E-01 | 1.33 | 0.00 | 0.00 | 0.00 | 3.86 |
| | 3.75 | 6.076E-01 | 5.08 | 0.00 | 0.00 | 0.00 | 2.30 |
| | 5.00 | 6.076E-01 | 8.83 | 0.00 | 0.00 | 0.00 | 1.72 |
| 35 | ENVOLV MIN | | | | | | |
| | 0.00 | -4.75 | -7.96 | 0.00 | 0.00 | 0.00 | -5.67 |
| | 1.25 | -4.75 | -3.81 | 0.00 | 0.00 | 0.00 | -4.770E-01 |
| | 2.50 | -4.75 | -9.636E-01 | 0.00 | 0.00 | 0.00 | 1.20 |
| | 3.75 | -4.75 | -2.098E-01 | 0.00 | 0.00 | 0.00 | -1.38 |
| | 5.00 | -4.75 | 5.439E-01 | 0.00 | 0.00 | 0.00 | -9.70 |

ANALISIS DE PORTICO PLANO EN LA DIRECCION Y-Y, PORTICO EJE#1 Y EJE#4

F R A M E E L E M E N T F O R C E S

| FRAME | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
|-------|-----------|------|-----------|---------|------|------|------|------------|
| 1 | EVOLV MAX | | | | | | | |
| | | 0.00 | -12.45 | 3.71 | 0.00 | 0.00 | 0.00 | 10.07 |
| | | 1.88 | -10.42 | 3.71 | 0.00 | 0.00 | 0.00 | 3.73 |
| | | 3.75 | -8.39 | 3.71 | 0.00 | 0.00 | 0.00 | 9.49 |
| 1 | EVOLV MIN | | | | | | | |
| | | 0.00 | -122.56 | -5.95 | 0.00 | 0.00 | 0.00 | -12.82 |
| | | 1.88 | -117.74 | -5.95 | 0.00 | 0.00 | 0.00 | -2.27 |
| | | 3.75 | -112.92 | -5.95 | 0.00 | 0.00 | 0.00 | -3.83 |
| 2 | EVOLV MAX | | | | | | | |
| | | 0.00 | -8.15 | 4.89 | 0.00 | 0.00 | 0.00 | 8.46 |
| | | 1.63 | -6.39 | 4.89 | 0.00 | 0.00 | 0.00 | 7.644E-01 |
| | | 3.25 | -4.62 | 4.89 | 0.00 | 0.00 | 0.00 | 14.48 |
| 2 | EVOLV MIN | | | | | | | |
| | | 0.00 | -96.13 | -9.47 | 0.00 | 0.00 | 0.00 | -16.30 |
| | | 1.63 | -91.96 | -9.47 | 0.00 | 0.00 | 0.00 | -1.21 |
| | | 3.25 | -87.78 | -9.47 | 0.00 | 0.00 | 0.00 | -7.44 |
| 3 | EVOLV MAX | | | | | | | |
| | | 0.00 | -6.36 | 5.75 | 0.00 | 0.00 | 0.00 | 9.58 |
| | | 1.63 | -4.60 | 5.75 | 0.00 | 0.00 | 0.00 | 6.101E-01 |
| | | 3.25 | -2.84 | 5.75 | 0.00 | 0.00 | 0.00 | 15.79 |
| 3 | EVOLV MIN | | | | | | | |
| | | 0.00 | -70.98 | -9.88 | 0.00 | 0.00 | 0.00 | -16.33 |
| | | 1.63 | -66.80 | -9.88 | 0.00 | 0.00 | 0.00 | -6.466E-01 |
| | | 3.25 | -62.63 | -9.88 | 0.00 | 0.00 | 0.00 | -9.10 |
| 4 | EVOLV MAX | | | | | | | |
| | | 0.00 | -5.06 | 5.77 | 0.00 | 0.00 | 0.00 | 9.11 |
| | | 1.63 | -3.30 | 5.77 | 0.00 | 0.00 | 0.00 | 5.949E-01 |
| | | 3.25 | -1.54 | 5.77 | 0.00 | 0.00 | 0.00 | 16.09 |
| 4 | EVOLV MIN | | | | | | | |
| | | 0.00 | -46.02 | -9.77 | 0.00 | 0.00 | 0.00 | -15.67 |
| | | 1.63 | -41.84 | -9.77 | 0.00 | 0.00 | 0.00 | -6.689E-01 |
| | | 3.25 | -38.11 | -9.77 | 0.00 | 0.00 | 0.00 | -9.66 |
| 5 | EVOLV MAX | | | | | | | |
| | | 0.00 | -3.15 | 5.40 | 0.00 | 0.00 | 0.00 | 6.85 |
| | | 1.63 | -1.39 | 5.40 | 0.00 | 0.00 | 0.00 | 2.83 |
| | | 3.25 | 3.750E-01 | 5.40 | 0.00 | 0.00 | 0.00 | 18.58 |
| 5 | EVOLV MIN | | | | | | | |
| | | 0.00 | -21.14 | -9.86 | 0.00 | 0.00 | 0.00 | -13.46 |
| | | 1.63 | -16.97 | -9.86 | 0.00 | 0.00 | 0.00 | -2.12 |
| | | 3.25 | -14.50 | -9.86 | 0.00 | 0.00 | 0.00 | -10.71 |
| 6 | EVOLV MAX | | | | | | | |
| | | 0.00 | -46.10 | 119.45 | 0.00 | 0.00 | 0.00 | 825.93 |
| | | 1.88 | -47.99 | 119.45 | 0.00 | 0.00 | 0.00 | 603.51 |
| | | 3.75 | -49.88 | 119.45 | 0.00 | 0.00 | 0.00 | 381.08 |
| 6 | EVOLV MIN | | | | | | | |
| | | 0.00 | -527.70 | -119.45 | 0.00 | 0.00 | 0.00 | -825.94 |
| | | 1.88 | -500.16 | -119.45 | 0.00 | 0.00 | 0.00 | -603.52 |
| | | 3.75 | -472.62 | -119.45 | 0.00 | 0.00 | 0.00 | -381.09 |
| 7 | EVOLV MAX | | | | | | | |
| | | 0.00 | -37.14 | 96.21 | 0.00 | 0.00 | 0.00 | 433.56 |
| | | 1.63 | -38.78 | 96.21 | 0.00 | 0.00 | 0.00 | 277.29 |
| | | 3.25 | -40.42 | 96.21 | 0.00 | 0.00 | 0.00 | 121.01 |
| 7 | EVOLV MIN | | | | | | | |
| | | 0.00 | -414.88 | -96.21 | 0.00 | 0.00 | 0.00 | -433.57 |

| | | | | | | | |
|----|-----------|---------|--------|------|------|------|------------|
| | 1.63 | -391.02 | -96.21 | 0.00 | 0.00 | 0.00 | -277.30 |
| | 3.25 | -367.15 | -96.21 | 0.00 | 0.00 | 0.00 | -121.02 |
| 8 | EVOLV MAX | | | | | | |
| | 0.00 | -27.53 | 70.04 | 0.00 | 0.00 | 0.00 | 190.71 |
| | 1.63 | -29.16 | 70.04 | 0.00 | 0.00 | 0.00 | 76.94 |
| | 3.25 | -30.80 | 70.04 | 0.00 | 0.00 | 0.00 | 44.75 |
| 8 | EVOLV MIN | | | | | | |
| | 0.00 | -309.43 | -70.04 | 0.00 | 0.00 | 0.00 | -190.72 |
| | 1.63 | -285.57 | -70.04 | 0.00 | 0.00 | 0.00 | -76.95 |
| | 3.25 | -261.70 | -70.04 | 0.00 | 0.00 | 0.00 | -44.76 |
| 9 | EVOLV MAX | | | | | | |
| | 0.00 | -17.87 | 42.08 | 0.00 | 0.00 | 0.00 | 35.70 |
| | 1.63 | -19.51 | 42.08 | 0.00 | 0.00 | 0.00 | 39.89 |
| | 3.25 | -21.15 | 42.08 | 0.00 | 0.00 | 0.00 | 108.18 |
| 9 | EVOLV MIN | | | | | | |
| | 0.00 | -203.60 | -42.08 | 0.00 | 0.00 | 0.00 | -35.71 |
| | 1.63 | -179.73 | -42.08 | 0.00 | 0.00 | 0.00 | -39.90 |
| | 3.25 | -155.87 | -42.08 | 0.00 | 0.00 | 0.00 | -108.19 |
| 10 | EVOLV MAX | | | | | | |
| | 0.00 | -7.99 | 5.41 | 0.00 | 0.00 | 0.00 | 40.36 |
| | 1.63 | -9.63 | 5.41 | 0.00 | 0.00 | 0.00 | 48.89 |
| | 3.25 | -11.26 | 5.41 | 0.00 | 0.00 | 0.00 | 57.42 |
| 10 | EVOLV MIN | | | | | | |
| | 0.00 | -97.59 | -5.40 | 0.00 | 0.00 | 0.00 | -40.38 |
| | 1.63 | -73.72 | -5.40 | 0.00 | 0.00 | 0.00 | -48.91 |
| | 3.25 | -49.86 | -5.40 | 0.00 | 0.00 | 0.00 | -57.44 |
| 11 | EVOLV MAX | | | | | | |
| | 0.00 | 23.61 | 5.69 | 0.00 | 0.00 | 0.00 | 11.86 |
| | 1.88 | 23.27 | 5.69 | 0.00 | 0.00 | 0.00 | 1.79 |
| | 3.75 | 22.94 | 5.69 | 0.00 | 0.00 | 0.00 | 3.83 |
| 11 | EVOLV MIN | | | | | | |
| | 0.00 | -149.30 | -3.45 | 0.00 | 0.00 | 0.00 | -9.10 |
| | 1.88 | -144.57 | -3.45 | 0.00 | 0.00 | 0.00 | -3.24 |
| | 3.75 | -139.85 | -3.45 | 0.00 | 0.00 | 0.00 | -9.49 |
| 12 | EVOLV MAX | | | | | | |
| | 0.00 | 20.34 | 10.22 | 0.00 | 0.00 | 0.00 | 17.78 |
| | 1.63 | 20.05 | 10.22 | 0.00 | 0.00 | 0.00 | 1.46 |
| | 3.25 | 19.77 | 10.22 | 0.00 | 0.00 | 0.00 | 8.41 |
| 12 | EVOLV MIN | | | | | | |
| | 0.00 | -119.04 | -5.64 | 0.00 | 0.00 | 0.00 | -9.94 |
| | 1.63 | -114.95 | -5.64 | 0.00 | 0.00 | 0.00 | -1.02 |
| | 3.25 | -110.85 | -5.64 | 0.00 | 0.00 | 0.00 | -15.45 |
| 13 | EVOLV MAX | | | | | | |
| | 0.00 | 15.02 | 10.59 | 0.00 | 0.00 | 0.00 | 17.43 |
| | 1.63 | 14.73 | 10.59 | 0.00 | 0.00 | 0.00 | 6.039E-01 |
| | 3.25 | 14.45 | 10.59 | 0.00 | 0.00 | 0.00 | 10.29 |
| 13 | EVOLV MIN | | | | | | |
| | 0.00 | -87.90 | -6.45 | 0.00 | 0.00 | 0.00 | -10.68 |
| | 1.63 | -83.80 | -6.45 | 0.00 | 0.00 | 0.00 | -5.676E-01 |
| | 3.25 | -79.71 | -6.45 | 0.00 | 0.00 | 0.00 | -16.98 |
| 14 | EVOLV MAX | | | | | | |
| | 0.00 | 9.31 | 10.01 | 0.00 | 0.00 | 0.00 | 16.30 |
| | 1.63 | 9.02 | 10.01 | 0.00 | 0.00 | 0.00 | 5.902E-01 |
| | 3.25 | 8.73 | 10.01 | 0.00 | 0.00 | 0.00 | 9.80 |
| 14 | EVOLV MIN | | | | | | |
| | 0.00 | -56.56 | -6.01 | 0.00 | 0.00 | 0.00 | -9.74 |
| | 1.63 | -52.47 | -6.01 | 0.00 | 0.00 | 0.00 | -4.994E-01 |
| | 3.25 | -48.37 | -6.01 | 0.00 | 0.00 | 0.00 | -16.23 |
| 15 | EVOLV MAX | | | | | | |
| | 0.00 | 4.02 | 11.30 | 0.00 | 0.00 | 0.00 | 15.79 |
| | 1.63 | 3.73 | 11.30 | 0.00 | 0.00 | 0.00 | 2.14 |
| | 3.25 | 3.45 | 11.30 | 0.00 | 0.00 | 0.00 | 13.08 |
| 15 | EVOLV MIN | | | | | | |

| | | | | | | | | |
|----|-----------|--------|-----------|-------|------|------|------|-----------|
| | | 0.00 | -25.75 | -6.85 | 0.00 | 0.00 | 0.00 | -9.18 |
| | | 1.63 | -21.65 | -6.85 | 0.00 | 0.00 | 0.00 | -2.85 |
| | | 3.25 | -17.56 | -6.85 | 0.00 | 0.00 | 0.00 | -20.95 |
| 16 | EVOLV MAX | | | | | | | |
| | 3.5E-01 | 21.62 | 7.408E-01 | 0.00 | 0.00 | 0.00 | 0.00 | 12.20 |
| | 1.42 | 21.62 | 3.75 | 0.00 | 0.00 | 0.00 | 0.00 | 11.82 |
| | 2.50 | 21.62 | 6.91 | 0.00 | 0.00 | 0.00 | 0.00 | 8.07 |
| | 3.57 | 21.62 | 13.24 | 0.00 | 0.00 | 0.00 | 0.00 | 8.74 |
| | 4.64 | 21.62 | 19.57 | 0.00 | 0.00 | 0.00 | 0.00 | 11.40 |
| 16 | EVOLV MIN | | | | | | | |
| | 3.5E-01 | -19.29 | -16.33 | 0.00 | 0.00 | 0.00 | 0.00 | -19.77 |
| | 1.42 | -19.29 | -11.35 | 0.00 | 0.00 | 0.00 | 0.00 | -6.95 |
| | 2.50 | -19.29 | -6.53 | 0.00 | 0.00 | 0.00 | 0.00 | 9.394E-01 |
| | 3.57 | -19.29 | -4.87 | 0.00 | 0.00 | 0.00 | 0.00 | -4.69 |
| | 4.64 | -19.29 | -3.22 | 0.00 | 0.00 | 0.00 | 0.00 | -20.61 |
| 17 | EVOLV MAX | | | | | | | |
| | 3.5E-01 | 25.36 | 2.72 | 0.00 | 0.00 | 0.00 | 0.00 | 16.23 |
| | 1.42 | 25.36 | 5.73 | 0.00 | 0.00 | 0.00 | 0.00 | 13.61 |
| | 2.50 | 25.36 | 8.89 | 0.00 | 0.00 | 0.00 | 0.00 | 7.82 |
| | 3.57 | 25.36 | 15.22 | 0.00 | 0.00 | 0.00 | 0.00 | 10.84 |
| | 4.64 | 25.36 | 21.55 | 0.00 | 0.00 | 0.00 | 0.00 | 15.73 |
| 17 | EVOLV MIN | | | | | | | |
| | 3.5E-01 | -25.80 | -18.32 | 0.00 | 0.00 | 0.00 | 0.00 | -24.08 |
| | 1.42 | -25.80 | -13.34 | 0.00 | 0.00 | 0.00 | 0.00 | -9.01 |
| | 2.50 | -25.80 | -8.51 | 0.00 | 0.00 | 0.00 | 0.00 | 1.01 |
| | 3.57 | -25.80 | -6.86 | 0.00 | 0.00 | 0.00 | 0.00 | -7.04 |
| | 4.64 | -25.80 | -5.21 | 0.00 | 0.00 | 0.00 | 0.00 | -25.19 |
| 18 | EVOLV MAX | | | | | | | |
| | 3.5E-01 | 28.42 | 3.20 | 0.00 | 0.00 | 0.00 | 0.00 | 17.26 |
| | 1.42 | 28.42 | 6.21 | 0.00 | 0.00 | 0.00 | 0.00 | 14.22 |
| | 2.50 | 28.42 | 9.45 | 0.00 | 0.00 | 0.00 | 0.00 | 7.84 |
| | 3.57 | 28.42 | 15.78 | 0.00 | 0.00 | 0.00 | 0.00 | 11.15 |
| | 4.64 | 28.42 | 22.11 | 0.00 | 0.00 | 0.00 | 0.00 | 16.51 |
| 18 | EVOLV MIN | | | | | | | |
| | 3.5E-01 | -28.55 | -18.59 | 0.00 | 0.00 | 0.00 | 0.00 | -24.64 |
| | 1.42 | -28.55 | -13.61 | 0.00 | 0.00 | 0.00 | 0.00 | -9.38 |
| | 2.50 | -28.55 | -8.87 | 0.00 | 0.00 | 0.00 | 0.00 | 1.03 |
| | 3.57 | -28.55 | -7.22 | 0.00 | 0.00 | 0.00 | 0.00 | -7.56 |
| | 4.64 | -28.55 | -5.56 | 0.00 | 0.00 | 0.00 | 0.00 | -26.39 |
| 19 | EVOLV MAX | | | | | | | |
| | 3.5E-01 | 36.03 | 2.59 | 0.00 | 0.00 | 0.00 | 0.00 | 15.77 |
| | 1.42 | 36.03 | 5.60 | 0.00 | 0.00 | 0.00 | 0.00 | 13.43 |
| | 2.50 | 36.03 | 8.89 | 0.00 | 0.00 | 0.00 | 0.00 | 7.82 |
| | 3.57 | 36.03 | 15.22 | 0.00 | 0.00 | 0.00 | 0.00 | 10.56 |
| | 4.64 | 36.03 | 21.55 | 0.00 | 0.00 | 0.00 | 0.00 | 15.26 |
| 19 | EVOLV MIN | | | | | | | |
| | 3.5E-01 | -35.56 | -17.89 | 0.00 | 0.00 | 0.00 | 0.00 | -22.98 |
| | 1.42 | -35.56 | -12.91 | 0.00 | 0.00 | 0.00 | 0.00 | -8.52 |
| | 2.50 | -35.56 | -8.22 | 0.00 | 0.00 | 0.00 | 0.00 | 1.18 |
| | 3.57 | -35.56 | -6.56 | 0.00 | 0.00 | 0.00 | 0.00 | -7.09 |
| | 4.64 | -35.56 | -4.91 | 0.00 | 0.00 | 0.00 | 0.00 | -25.37 |
| 20 | EVOLV MAX | | | | | | | |
| | 3.5E-01 | 12.18 | 1.26 | 0.00 | 0.00 | 0.00 | 0.00 | 10.43 |
| | 1.42 | 12.18 | 3.96 | 0.00 | 0.00 | 0.00 | 0.00 | 9.97 |
| | 2.50 | 12.18 | 7.26 | 0.00 | 0.00 | 0.00 | 0.00 | 7.12 |
| | 3.57 | 12.18 | 12.63 | 0.00 | 0.00 | 0.00 | 0.00 | 9.30 |
| | 4.64 | 12.18 | 18.00 | 0.00 | 0.00 | 0.00 | 0.00 | 12.26 |
| 20 | EVOLV MIN | | | | | | | |
| | 3.5E-01 | -16.63 | -13.18 | 0.00 | 0.00 | 0.00 | 0.00 | -13.72 |
| | 1.42 | -16.63 | -9.16 | 0.00 | 0.00 | 0.00 | 0.00 | -4.08 |
| | 2.50 | -16.63 | -5.75 | 0.00 | 0.00 | 0.00 | 0.00 | 1.93 |
| | 3.57 | -16.63 | -4.40 | 0.00 | 0.00 | 0.00 | 0.00 | -6.65 |
| | 4.64 | -16.63 | -3.05 | 0.00 | 0.00 | 0.00 | 0.00 | -22.05 |
| 21 | EVOLV MAX | | | | | | | |
| | 2.01 | 4.53 | 2.174E-01 | 0.00 | 0.00 | 0.00 | 0.00 | 9.57 |

| | | | | | | | |
|----|-----------|------------|-----------|------|------|------|-----------|
| | 3.08 | 4.53 | 3.22 | 0.00 | 0.00 | 0.00 | 9.41 |
| | 4.15 | 4.53 | 6.23 | 0.00 | 0.00 | 0.00 | 8.07 |
| | 5.23 | 4.53 | 12.40 | 0.00 | 0.00 | 0.00 | 10.52 |
| | 6.30 | 4.53 | 18.73 | 0.00 | 0.00 | 0.00 | 12.75 |
| 21 | EVOLV MIN | | | | | | |
| | 2.01 | -2.20 | -16.57 | 0.00 | 0.00 | 0.00 | -18.78 |
| | 3.08 | -2.20 | -11.59 | 0.00 | 0.00 | 0.00 | -5.36 |
| | 4.15 | -2.20 | -6.61 | 0.00 | 0.00 | 0.00 | 2.45 |
| | 5.23 | -2.20 | -4.80 | 0.00 | 0.00 | 0.00 | -5.65 |
| | 6.30 | -2.20 | -3.15 | 0.00 | 0.00 | 0.00 | -20.32 |
| 22 | EVOLV MAX | | | | | | |
| | 2.01 | 5.493E-01 | 2.36 | 0.00 | 0.00 | 0.00 | 14.04 |
| | 3.08 | 5.493E-01 | 5.37 | 0.00 | 0.00 | 0.00 | 11.47 |
| | 4.15 | 5.493E-01 | 8.38 | 0.00 | 0.00 | 0.00 | 7.82 |
| | 5.23 | 5.493E-01 | 14.55 | 0.00 | 0.00 | 0.00 | 12.68 |
| | 6.30 | 5.493E-01 | 20.88 | 0.00 | 0.00 | 0.00 | 17.32 |
| 22 | EVOLV MIN | | | | | | |
| | 2.01 | -9.933E-01 | -18.71 | 0.00 | 0.00 | 0.00 | -23.49 |
| | 3.08 | -9.933E-01 | -13.73 | 0.00 | 0.00 | 0.00 | -7.68 |
| | 4.15 | -9.933E-01 | -8.75 | 0.00 | 0.00 | 0.00 | 2.43 |
| | 5.23 | -9.933E-01 | -6.94 | 0.00 | 0.00 | 0.00 | -8.08 |
| | 6.30 | -9.933E-01 | -5.29 | 0.00 | 0.00 | 0.00 | -25.18 |
| 23 | EVOLV MAX | | | | | | |
| | 2.01 | 4.422E-01 | 2.64 | 0.00 | 0.00 | 0.00 | 14.69 |
| | 3.08 | 4.422E-01 | 5.64 | 0.00 | 0.00 | 0.00 | 11.74 |
| | 4.15 | 4.422E-01 | 8.65 | 0.00 | 0.00 | 0.00 | 7.84 |
| | 5.23 | 4.422E-01 | 14.74 | 0.00 | 0.00 | 0.00 | 13.15 |
| | 6.30 | 4.422E-01 | 21.07 | 0.00 | 0.00 | 0.00 | 18.13 |
| 23 | EVOLV MIN | | | | | | |
| | 2.01 | -5.773E-01 | -19.19 | 0.00 | 0.00 | 0.00 | -24.57 |
| | 3.08 | -5.773E-01 | -14.21 | 0.00 | 0.00 | 0.00 | -8.15 |
| | 4.15 | -5.773E-01 | -9.23 | 0.00 | 0.00 | 0.00 | 2.38 |
| | 5.23 | -5.773E-01 | -7.34 | 0.00 | 0.00 | 0.00 | -8.31 |
| | 6.30 | -5.773E-01 | -5.68 | 0.00 | 0.00 | 0.00 | -25.51 |
| 24 | EVOLV MAX | | | | | | |
| | 2.01 | 1.32 | 2.16 | 0.00 | 0.00 | 0.00 | 13.62 |
| | 3.08 | 1.32 | 5.17 | 0.00 | 0.00 | 0.00 | 11.14 |
| | 4.15 | 1.32 | 8.17 | 0.00 | 0.00 | 0.00 | 7.82 |
| | 5.23 | 1.32 | 14.22 | 0.00 | 0.00 | 0.00 | 12.76 |
| | 6.30 | 1.32 | 20.55 | 0.00 | 0.00 | 0.00 | 17.23 |
| 24 | EVOLV MIN | | | | | | |
| | 2.01 | -8.380E-01 | -18.80 | 0.00 | 0.00 | 0.00 | -23.73 |
| | 3.08 | -8.380E-01 | -13.83 | 0.00 | 0.00 | 0.00 | -7.67 |
| | 4.15 | -8.380E-01 | -8.85 | 0.00 | 0.00 | 0.00 | 2.40 |
| | 5.23 | -8.380E-01 | -6.91 | 0.00 | 0.00 | 0.00 | -7.84 |
| | 6.30 | -8.380E-01 | -5.25 | 0.00 | 0.00 | 0.00 | -24.44 |
| 25 | EVOLV MAX | | | | | | |
| | 2.01 | 6.85 | 2.759E-01 | 0.00 | 0.00 | 0.00 | 10.57 |
| | 3.08 | 6.85 | 2.97 | 0.00 | 0.00 | 0.00 | 9.86 |
| | 4.15 | 6.85 | 5.67 | 0.00 | 0.00 | 0.00 | 7.30 |
| | 5.23 | 6.85 | 10.43 | 0.00 | 0.00 | 0.00 | 9.24 |
| | 6.30 | 6.85 | 15.80 | 0.00 | 0.00 | 0.00 | 11.79 |
| 25 | EVOLV MIN | | | | | | |
| | 2.01 | -11.30 | -15.22 | 0.00 | 0.00 | 0.00 | -20.36 |
| | 3.08 | -11.30 | -11.20 | 0.00 | 0.00 | 0.00 | -7.22 |
| | 4.15 | -11.30 | -7.19 | 0.00 | 0.00 | 0.00 | 5.623E-01 |
| | 5.23 | -11.30 | -5.23 | 0.00 | 0.00 | 0.00 | -3.35 |
| | 6.30 | -11.30 | -3.89 | 0.00 | 0.00 | 0.00 | -15.09 |

ANALISIS DE PORTICO PLANO EN LA DIRECCION Y-Y, PORTICO EJE#2 Y EJE#3

| FRAME ELEMENT FORCES | | | | | | | | |
|----------------------|--------|------|---------|--------|------|------|------|-----------|
| FRAME | LOAD | LOC | P | V2 | V3 | T | M2 | M3 |
| 1 | ENVOLV | MAX | | | | | | |
| | | 0.00 | -53.40 | 2.96 | 0.00 | 0.00 | 0.00 | -2.17 |
| | | 1.88 | -52.68 | 2.96 | 0.00 | 0.00 | 0.00 | 5.05 |
| 1 | ENVOLV | MIN | | | | | | |
| | | 0.00 | -51.95 | 2.96 | 0.00 | 0.00 | 0.00 | 21.58 |
| | | 1.88 | -234.56 | -9.75 | 0.00 | 0.00 | 0.00 | -15.53 |
| 1 | ENVOLV | MIN | | | | | | |
| | | 0.00 | -245.12 | -9.75 | 0.00 | 0.00 | 0.00 | -9.49 |
| | | 1.88 | -255.67 | -9.75 | 0.00 | 0.00 | 0.00 | -13.26 |
| 2 | ENVOLV | MAX | | | | | | |
| | | 0.00 | -42.62 | -1.22 | 0.00 | 0.00 | 0.00 | -1.92 |
| | | 1.63 | -42.00 | -1.22 | 0.00 | 0.00 | 0.00 | 2.76 |
| 2 | ENVOLV | MIN | | | | | | |
| | | 0.00 | -41.37 | -1.22 | 0.00 | 0.00 | 0.00 | 20.71 |
| | | 1.63 | -182.54 | -12.34 | 0.00 | 0.00 | 0.00 | -19.40 |
| 2 | ENVOLV | MIN | | | | | | |
| | | 0.00 | -191.69 | -12.34 | 0.00 | 0.00 | 0.00 | -1.74 |
| | | 1.63 | -200.84 | -12.34 | 0.00 | 0.00 | 0.00 | 2.05 |
| 3 | ENVOLV | MAX | | | | | | |
| | | 0.00 | -31.47 | -1.63 | 0.00 | 0.00 | 0.00 | -2.09 |
| | | 1.63 | -30.84 | -1.63 | 0.00 | 0.00 | 0.00 | 2.30 |
| 3 | ENVOLV | MIN | | | | | | |
| | | 0.00 | -30.22 | -1.63 | 0.00 | 0.00 | 0.00 | 19.96 |
| | | 1.63 | -129.63 | -12.34 | 0.00 | 0.00 | 0.00 | -20.16 |
| 3 | ENVOLV | MIN | | | | | | |
| | | 0.00 | -138.78 | -12.34 | 0.00 | 0.00 | 0.00 | -2.43 |
| | | 1.63 | -147.93 | -12.34 | 0.00 | 0.00 | 0.00 | 3.19 |
| 4 | ENVOLV | MAX | | | | | | |
| | | 0.00 | -20.45 | -2.32 | 0.00 | 0.00 | 0.00 | -2.92 |
| | | 1.63 | -19.82 | -2.32 | 0.00 | 0.00 | 0.00 | 2.50 |
| 4 | ENVOLV | MIN | | | | | | |
| | | 0.00 | -19.20 | -2.32 | 0.00 | 0.00 | 0.00 | 20.81 |
| | | 1.63 | -76.21 | -12.88 | 0.00 | 0.00 | 0.00 | -21.05 |
| 4 | ENVOLV | MIN | | | | | | |
| | | 0.00 | -85.36 | -12.88 | 0.00 | 0.00 | 0.00 | -2.58 |
| | | 1.63 | -94.51 | -12.88 | 0.00 | 0.00 | 0.00 | 4.64 |
| 5 | ENVOLV | MAX | | | | | | |
| | | 0.00 | -8.45 | -3.90 | 0.00 | 0.00 | 0.00 | -5.58 |
| | | 1.63 | -8.91 | -3.90 | 0.00 | 0.00 | 0.00 | 5.68 |
| 5 | ENVOLV | MIN | | | | | | |
| | | 0.00 | -9.37 | -3.90 | 0.00 | 0.00 | 0.00 | 29.42 |
| | | 1.63 | -40.76 | -15.49 | 0.00 | 0.00 | 0.00 | -20.93 |
| 5 | ENVOLV | MIN | | | | | | |
| | | 0.00 | -34.10 | -15.49 | 0.00 | 0.00 | 0.00 | 4.272E-01 |
| | | 1.63 | -27.44 | -15.49 | 0.00 | 0.00 | 0.00 | 7.11 |
| 6 | ENVOLV | MAX | | | | | | |
| | | 0.00 | -82.16 | 7.22 | 0.00 | 0.00 | 0.00 | 16.42 |
| | | 1.88 | -82.58 | 7.22 | 0.00 | 0.00 | 0.00 | 4.56 |
| 6 | ENVOLV | MIN | | | | | | |
| | | 0.00 | -82.99 | 7.22 | 0.00 | 0.00 | 0.00 | 10.64 |
| | | 1.88 | -367.88 | -7.22 | 0.00 | 0.00 | 0.00 | -16.42 |
| 6 | ENVOLV | MIN | | | | | | |
| | | 0.00 | -361.86 | -7.22 | 0.00 | 0.00 | 0.00 | -4.56 |
| | | 1.88 | -355.83 | -7.22 | 0.00 | 0.00 | 0.00 | -10.64 |
| 7 | ENVOLV | MAX | | | | | | |
| | | 0.00 | -64.72 | 6.79 | 0.00 | 0.00 | 0.00 | 12.90 |
| | | 1.63 | -65.08 | 6.79 | 0.00 | 0.00 | 0.00 | 3.04 |
| 7 | ENVOLV | MIN | | | | | | |
| | | 0.00 | -65.44 | 6.79 | 0.00 | 0.00 | 0.00 | 12.77 |
| | | 1.63 | -288.37 | -6.79 | 0.00 | 0.00 | 0.00 | -12.90 |
| 7 | ENVOLV | MIN | | | | | | |
| | | 0.00 | -283.15 | -6.79 | 0.00 | 0.00 | 0.00 | -3.04 |
| | | 1.63 | -277.92 | -6.79 | 0.00 | 0.00 | 0.00 | -12.77 |

| | | | | | | | | | |
|----|--------|-----|------|---------|------------|------|------|------|------------|
| 8 | ENVOLV | MAX | 0.00 | -47.63 | 5.91 | 0.00 | 0.00 | 0.00 | 11.44 |
| | | | 1.63 | -47.99 | 5.91 | 0.00 | 0.00 | 0.00 | 3.33 |
| | | | 3.25 | -48.35 | 5.91 | 0.00 | 0.00 | 0.00 | 12.30 |
| 8 | ENVOLV | MIN | 0.00 | -212.23 | -5.91 | 0.00 | 0.00 | 0.00 | -11.44 |
| | | | 1.63 | -207.00 | -5.91 | 0.00 | 0.00 | 0.00 | -3.33 |
| | | | 3.25 | -201.78 | -5.91 | 0.00 | 0.00 | 0.00 | -12.30 |
| 9 | ENVOLV | MAX | 0.00 | -30.81 | 5.16 | 0.00 | 0.00 | 0.00 | 10.13 |
| | | | 1.63 | -31.17 | 5.16 | 0.00 | 0.00 | 0.00 | 3.35 |
| | | | 3.25 | -31.53 | 5.16 | 0.00 | 0.00 | 0.00 | 11.25 |
| 9 | ENVOLV | MIN | 0.00 | -137.12 | -5.16 | 0.00 | 0.00 | 0.00 | -10.13 |
| | | | 1.63 | -131.90 | -5.16 | 0.00 | 0.00 | 0.00 | -3.35 |
| | | | 3.25 | -126.68 | -5.16 | 0.00 | 0.00 | 0.00 | -11.25 |
| 10 | ENVOLV | MAX | 0.00 | -14.22 | 5.04 | 0.00 | 0.00 | 0.00 | 8.76 |
| | | | 1.63 | -14.58 | 5.04 | 0.00 | 0.00 | 0.00 | 3.65 |
| | | | 3.25 | -14.94 | 5.04 | 0.00 | 0.00 | 0.00 | 11.35 |
| 10 | ENVOLV | MIN | 0.00 | -62.65 | -5.04 | 0.00 | 0.00 | 0.00 | -8.76 |
| | | | 1.63 | -57.43 | -5.04 | 0.00 | 0.00 | 0.00 | -3.65 |
| | | | 3.25 | -52.21 | -5.04 | 0.00 | 0.00 | 0.00 | -11.35 |
| 11 | ENVOLV | MAX | 0.00 | -26.72 | 10.35 | 0.00 | 0.00 | 0.00 | 22.17 |
| | | | 1.88 | -27.45 | 10.35 | 0.00 | 0.00 | 0.00 | 4.51 |
| | | | 3.75 | -28.17 | 10.35 | 0.00 | 0.00 | 0.00 | -5.069E-01 |
| 11 | ENVOLV | MIN | 0.00 | -255.67 | -3.56 | 0.00 | 0.00 | 0.00 | -13.85 |
| | | | 1.88 | -245.12 | -3.56 | 0.00 | 0.00 | 0.00 | -8.96 |
| | | | 3.75 | -234.56 | -3.56 | 0.00 | 0.00 | 0.00 | -16.65 |
| 12 | ENVOLV | MAX | 0.00 | -21.93 | 13.98 | 0.00 | 0.00 | 0.00 | 23.52 |
| | | | 1.63 | -22.56 | 13.98 | 0.00 | 0.00 | 0.00 | 2.76 |
| | | | 3.25 | -23.19 | 13.98 | 0.00 | 0.00 | 0.00 | 5.915E-01 |
| 12 | ENVOLV | MIN | 0.00 | -200.84 | -4.153E-01 | 0.00 | 0.00 | 0.00 | -7.581E-01 |
| | | | 1.63 | -191.69 | -4.153E-01 | 0.00 | 0.00 | 0.00 | -1.74 |
| | | | 3.25 | -182.54 | -4.153E-01 | 0.00 | 0.00 | 0.00 | -21.91 |
| 13 | ENVOLV | MAX | 0.00 | -16.86 | 13.53 | 0.00 | 0.00 | 0.00 | 21.32 |
| | | | 1.63 | -17.49 | 13.53 | 0.00 | 0.00 | 0.00 | 2.30 |
| | | | 3.25 | -18.12 | 13.53 | 0.00 | 0.00 | 0.00 | 3.878E-01 |
| 13 | ENVOLV | MIN | 0.00 | -147.93 | 1.066E-01 | 0.00 | 0.00 | 0.00 | 7.341E-01 |
| | | | 1.63 | -138.78 | 1.066E-01 | 0.00 | 0.00 | 0.00 | -2.43 |
| | | | 3.25 | -129.63 | 1.066E-01 | 0.00 | 0.00 | 0.00 | -22.64 |
| 14 | ENVOLV | MAX | 0.00 | -11.38 | 13.68 | 0.00 | 0.00 | 0.00 | 21.11 |
| | | | 1.63 | -12.01 | 13.68 | 0.00 | 0.00 | 0.00 | 2.67 |
| | | | 3.25 | -12.64 | 13.68 | 0.00 | 0.00 | 0.00 | 1.617E-01 |
| 14 | ENVOLV | MIN | 0.00 | -94.51 | 5.351E-01 | 0.00 | 0.00 | 0.00 | 1.90 |
| | | | 1.63 | -85.36 | 5.351E-01 | 0.00 | 0.00 | 0.00 | -2.75 |
| | | | 3.25 | -76.21 | 5.351E-01 | 0.00 | 0.00 | 0.00 | -23.34 |
| 15 | ENVOLV | MAX | 0.00 | -6.31 | 15.49 | 0.00 | 0.00 | 0.00 | 30.32 |
| | | | 1.63 | -5.86 | 15.49 | 0.00 | 0.00 | 0.00 | 6.23 |
| | | | 3.25 | -5.40 | 15.49 | 0.00 | 0.00 | 0.00 | -3.44 |
| 15 | ENVOLV | MIN | 0.00 | -27.44 | 1.99 | 0.00 | 0.00 | 0.00 | 3.03 |
| | | | 1.63 | -34.10 | 1.99 | 0.00 | 0.00 | 0.00 | -5.452E-01 |

| | | | | | | | | |
|----|------------|------|------------|--------|------|------|------|------------|
| | | 3.25 | -40.76 | 1.99 | 0.00 | 0.00 | 0.00 | -20.93 |
| 16 | ENVOLV MAX | 0.00 | 6.12 | -10.43 | 0.00 | 0.00 | 0.00 | -4.23 |
| | | 1.66 | 6.12 | -3.77 | 0.00 | 0.00 | 0.00 | 10.18 |
| | | 3.33 | 6.12 | 3.01 | 0.00 | 0.00 | 0.00 | 19.93 |
| | | 4.99 | 6.12 | 16.96 | 0.00 | 0.00 | 0.00 | 8.81 |
| | | 6.65 | 6.12 | 33.73 | 0.00 | 0.00 | 0.00 | -5.832E-01 |
| 16 | ENVOLV MIN | 0.00 | 1.65 | -33.72 | 0.00 | 0.00 | 0.00 | -36.13 |
| | | 1.66 | 1.65 | -16.86 | 0.00 | 0.00 | 0.00 | -3.65 |
| | | 3.33 | 1.65 | -3.01 | 0.00 | 0.00 | 0.00 | 4.97 |
| | | 4.99 | 1.65 | 1.67 | 0.00 | 0.00 | 0.00 | -2.05 |
| | | 6.65 | 1.65 | 6.24 | 0.00 | 0.00 | 0.00 | -39.34 |
| 17 | ENVOLV MAX | 0.00 | 1.37 | -10.65 | 0.00 | 0.00 | 0.00 | -5.11 |
| | | 1.66 | 1.37 | -3.99 | 0.00 | 0.00 | 0.00 | 9.07 |
| | | 3.33 | 1.37 | 2.67 | 0.00 | 0.00 | 0.00 | 19.75 |
| | | 4.99 | 1.37 | 16.35 | 0.00 | 0.00 | 0.00 | 9.97 |
| | | 6.65 | 1.37 | 32.85 | 0.00 | 0.00 | 0.00 | 6.859E-01 |
| 17 | ENVOLV MIN | 0.00 | -1.29 | -34.61 | 0.00 | 0.00 | 0.00 | -39.25 |
| | | 1.66 | -1.29 | -17.74 | 0.00 | 0.00 | 0.00 | -4.24 |
| | | 3.33 | -1.29 | -3.67 | 0.00 | 0.00 | 0.00 | 5.00 |
| | | 4.99 | -1.29 | 1.30 | 0.00 | 0.00 | 0.00 | -1.83 |
| | | 6.65 | -1.29 | 5.87 | 0.00 | 0.00 | 0.00 | -37.55 |
| 18 | ENVOLV MAX | 0.00 | 1.42 | -11.13 | 0.00 | 0.00 | 0.00 | -6.73 |
| | | 1.66 | 1.42 | -4.47 | 0.00 | 0.00 | 0.00 | 8.02 |
| | | 3.33 | 1.42 | 2.19 | 0.00 | 0.00 | 0.00 | 19.77 |
| | | 4.99 | 1.42 | 15.65 | 0.00 | 0.00 | 0.00 | 10.05 |
| | | 6.65 | 1.42 | 32.33 | 0.00 | 0.00 | 0.00 | 2.813E-01 |
| 18 | ENVOLV MIN | 0.00 | -8.393E-01 | -35.12 | 0.00 | 0.00 | 0.00 | -40.94 |
| | | 1.66 | -8.393E-01 | -18.26 | 0.00 | 0.00 | 0.00 | -3.99 |
| | | 3.33 | -8.393E-01 | -3.74 | 0.00 | 0.00 | 0.00 | 5.03 |
| | | 4.99 | -8.393E-01 | 1.43 | 0.00 | 0.00 | 0.00 | -1.04 |
| | | 6.65 | -8.393E-01 | 6.00 | 0.00 | 0.00 | 0.00 | -35.21 |
| 19 | ENVOLV MAX | 0.00 | 2.65 | -11.65 | 0.00 | 0.00 | 0.00 | -8.49 |
| | | 1.66 | 2.65 | -4.99 | 0.00 | 0.00 | 0.00 | 7.00 |
| | | 3.33 | 2.65 | 1.67 | 0.00 | 0.00 | 0.00 | 19.80 |
| | | 4.99 | 2.65 | 15.15 | 0.00 | 0.00 | 0.00 | 9.80 |
| | | 6.65 | 2.65 | 32.01 | 0.00 | 0.00 | 0.00 | -5.960E-01 |
| 19 | ENVOLV MIN | 0.00 | 5.669E-01 | -35.45 | 0.00 | 0.00 | 0.00 | -41.98 |
| | | 1.66 | 5.669E-01 | -18.58 | 0.00 | 0.00 | 0.00 | -3.48 |
| | | 3.33 | 5.669E-01 | -3.60 | 0.00 | 0.00 | 0.00 | 5.07 |
| | | 4.99 | 5.669E-01 | 1.71 | 0.00 | 0.00 | 0.00 | -2.273E-01 |
| | | 6.65 | 5.669E-01 | 6.27 | 0.00 | 0.00 | 0.00 | -33.08 |
| 20 | ENVOLV MAX | 0.00 | 2.89 | -9.37 | 0.00 | 0.00 | 0.00 | -7.11 |
| | | 1.66 | 2.89 | -4.56 | 0.00 | 0.00 | 0.00 | 7.45 |
| | | 3.33 | 2.89 | 1.37 | 0.00 | 0.00 | 0.00 | 17.30 |
| | | 4.99 | 2.89 | 12.72 | 0.00 | 0.00 | 0.00 | 7.33 |
| | | 6.65 | 2.89 | 26.11 | 0.00 | 0.00 | 0.00 | -2.47 |
| 20 | ENVOLV MIN | 0.00 | -20.32 | -27.44 | 0.00 | 0.00 | 0.00 | -29.42 |
| | | 1.66 | -20.32 | -14.05 | 0.00 | 0.00 | 0.00 | -1.47 |
| | | 3.33 | -20.32 | -2.04 | 0.00 | 0.00 | 0.00 | 4.56 |
| | | 4.99 | -20.32 | 2.11 | 0.00 | 0.00 | 0.00 | 8.471E-01 |
| | | 6.65 | -20.32 | 5.94 | 0.00 | 0.00 | 0.00 | -26.38 |
| 21 | ENVOLV MAX | 0.00 | 6.12 | -10.43 | 0.00 | 0.00 | 0.00 | -5.06 |
| | | 1.66 | 6.12 | -3.76 | 0.00 | 0.00 | 0.00 | 9.55 |
| | | 3.33 | 6.12 | 3.01 | 0.00 | 0.00 | 0.00 | 19.93 |

| | | | | | | | |
|----|--------|------------|--------|------|------|------|------------|
| | 4.99 | 6.12 | 16.95 | 0.00 | 0.00 | 0.00 | 9.43 |
| | 6.65 | 6.12 | 33.72 | 0.00 | 0.00 | 0.00 | 2.512E-01 |
| 21 | ENVOLV | MIN | | | | | |
| | 0.00 | 9.437E-01 | -33.73 | 0.00 | 0.00 | 0.00 | -36.16 |
| | 1.66 | 9.437E-01 | -16.87 | 0.00 | 0.00 | 0.00 | -2.79 |
| | 3.33 | 9.437E-01 | -3.01 | 0.00 | 0.00 | 0.00 | 5.82 |
| | 4.99 | 9.437E-01 | 1.67 | 0.00 | 0.00 | 0.00 | -2.90 |
| | 6.65 | 9.437E-01 | 6.24 | 0.00 | 0.00 | 0.00 | -40.17 |
| 22 | ENVOLV | MAX | | | | | |
| | 0.00 | 6.504E-01 | -9.92 | 0.00 | 0.00 | 0.00 | -3.38 |
| | 1.66 | 6.504E-01 | -3.26 | 0.00 | 0.00 | 0.00 | 10.90 |
| | 3.33 | 6.504E-01 | 3.80 | 0.00 | 0.00 | 0.00 | 19.75 |
| | 4.99 | 6.504E-01 | 17.85 | 0.00 | 0.00 | 0.00 | 8.59 |
| | 6.65 | 6.504E-01 | 34.61 | 0.00 | 0.00 | 0.00 | -1.426E-01 |
| 22 | ENVOLV | MIN | | | | | |
| | 0.00 | -5.722E-01 | -32.85 | 0.00 | 0.00 | 0.00 | -33.48 |
| | 1.66 | -5.722E-01 | -15.99 | 0.00 | 0.00 | 0.00 | -2.76 |
| | 3.33 | -5.722E-01 | -2.81 | 0.00 | 0.00 | 0.00 | 5.71 |
| | 4.99 | -5.722E-01 | 1.76 | 0.00 | 0.00 | 0.00 | -3.76 |
| | 6.65 | -5.722E-01 | 6.33 | 0.00 | 0.00 | 0.00 | -43.23 |
| 23 | ENVOLV | MAX | | | | | |
| | 0.00 | 6.818E-01 | -9.98 | 0.00 | 0.00 | 0.00 | -3.53 |
| | 1.66 | 6.818E-01 | -3.31 | 0.00 | 0.00 | 0.00 | 11.10 |
| | 3.33 | 6.818E-01 | 3.96 | 0.00 | 0.00 | 0.00 | 19.77 |
| | 4.99 | 6.818E-01 | 18.26 | 0.00 | 0.00 | 0.00 | 7.66 |
| | 6.65 | 6.818E-01 | 35.12 | 0.00 | 0.00 | 0.00 | -1.51 |
| 23 | ENVOLV | MIN | | | | | |
| | 0.00 | -1.042E-01 | -32.33 | 0.00 | 0.00 | 0.00 | -31.66 |
| | 1.66 | -1.042E-01 | -15.47 | 0.00 | 0.00 | 0.00 | -2.10 |
| | 3.33 | -1.042E-01 | -2.40 | 0.00 | 0.00 | 0.00 | 5.69 |
| | 4.99 | -1.042E-01 | 2.17 | 0.00 | 0.00 | 0.00 | -3.63 |
| | 6.65 | -1.042E-01 | 6.73 | 0.00 | 0.00 | 0.00 | -43.75 |
| 24 | ENVOLV | MAX | | | | | |
| | 0.00 | 2.61 | -10.24 | 0.00 | 0.00 | 0.00 | -4.32 |
| | 1.66 | 2.61 | -3.58 | 0.00 | 0.00 | 0.00 | 10.93 |
| | 3.33 | 2.61 | 3.82 | 0.00 | 0.00 | 0.00 | 19.80 |
| | 4.99 | 2.61 | 18.58 | 0.00 | 0.00 | 0.00 | 6.61 |
| | 6.65 | 2.61 | 35.45 | 0.00 | 0.00 | 0.00 | -3.28 |
| 24 | ENVOLV | MIN | | | | | |
| | 0.00 | 8.247E-01 | -32.01 | 0.00 | 0.00 | 0.00 | -30.56 |
| | 1.66 | 8.247E-01 | -15.15 | 0.00 | 0.00 | 0.00 | -1.35 |
| | 3.33 | 8.247E-01 | -1.90 | 0.00 | 0.00 | 0.00 | 5.60 |
| | 4.99 | 8.247E-01 | 2.67 | 0.00 | 0.00 | 0.00 | -3.10 |
| | 6.65 | 8.247E-01 | 7.24 | 0.00 | 0.00 | 0.00 | -43.19 |
| 25 | ENVOLV | MAX | | | | | |
| | 0.00 | -1.99 | -9.00 | 0.00 | 0.00 | 0.00 | -6.71 |
| | 1.66 | -1.99 | -4.23 | 0.00 | 0.00 | 0.00 | 8.35 |
| | 3.33 | -1.99 | 2.02 | 0.00 | 0.00 | 0.00 | 17.30 |
| | 4.99 | -1.99 | 14.05 | 0.00 | 0.00 | 0.00 | 6.35 |
| | 6.65 | -1.99 | 27.44 | 0.00 | 0.00 | 0.00 | -3.03 |
| 25 | ENVOLV | MIN | | | | | |
| | 0.00 | -15.49 | -26.11 | 0.00 | 0.00 | 0.00 | -24.99 |
| | 1.66 | -15.49 | -12.72 | 0.00 | 0.00 | 0.00 | -1.758E-01 |
| | 3.33 | -15.49 | -1.34 | 0.00 | 0.00 | 0.00 | 5.24 |
| | 4.99 | -15.49 | 2.49 | 0.00 | 0.00 | 0.00 | -3.680E-01 |
| | 6.65 | -15.49 | 6.31 | 0.00 | 0.00 | 0.00 | -30.32 |

