# Supplementary Material – Details of the 1D Shafting System Models

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Model Data:** | | **R** | | | | |
| Node No | Coord. X (m) | Coord. Y (m) | Coord. Z (m) |  | | |
| 1 | 0 | 0 | 0 |
| 2 | 0.197 | 0 | 0 |
| 3 | 0.395 | 0 | 0 |
| 4 | 0.965 | 0 | 0 |
| 5 | 1.475 | 0 | 0 |
| 6 | 1.967 | 0 | 0 |
| 7 | 2.137 | 0 | 0 |
| 8 | 2.987 | 0 | 0 |
| 9 | 3.067 | 0 | 0 |
| 10 | 5.697 | 0 | 0 |
| 11 | 6.031 | 0 | 0 |
| 12 | 6.207 | 0 | 0 |
| 13 | 6.407 | 0 | 0 |
| 14 | 6.507 | 0 | 0 |
| 15 | 6.607 | 0 | 0 |
| 16 | 6.961 | 0 | 0 |
| 17 | 7.052 | 0 | 0 |
| 18 | 7.192 | 0 | 0 |
| 19 | 7.332 | 0 | 0 |
| 20 | 7.508 | 0 | 0 |
| 21 | 8.008 | 0 | 0 |
| 22 | 11.413 | 0 | 0 |
| 23 | 12.413 | 0 | 0 |
| 24 | 12.513 | 0 | 0 |
| 25 | 12.578 | 0 | 0 |
| 26 | 12.62 | 0 | 0 |
| 27 | 12.907 | 0 | 0 |
| 28 | 13.161 | 0 | 0 |
| 29 | 13.267 | 0 | 0 |
| 30 | 13.299 | 0 | 0 |
| 31 | 13.373 | 0 | 0 |
| 32 | 13.662 | 0 | 0 |
| 33 | 13.889 | 0 | 0 |
| 34 | 14.087 | 0 | 0 |
| 35 | 14.285 | 0 | 0 |
| 36 | 14.512 | 0 | 0 |
| 37 | 14.739 | 0 | 0 |
| 38 | 14.937 | 0 | 0 |
| 39 | 15.135 | 0 | 0 |
| 40 | 15.362 | 0 | 0 |
| 41 | 15.589 | 0 | 0 |
| 42 | 15.787 | 0 | 0 |
| 43 | 15.985 | 0 | 0 |
| 44 | 16.212 | 0 | 0 |
| 45 | 16.439 | 0 | 0 |
| 46 | 16.637 | 0 | 0 |
| 47 | 16.835 | 0 | 0 |
| 48 | 17.062 | 0 | 0 |
| Beam Member No | Length (m) | Distr. Weight (kg/m) | Total Weight (kg) | Moment of Inertia (m4) | Young's Modulus (N/m2) |  |
| 1 | 0.197 | -7225.25 | -1423.37 | 0.00092 | 2.10E+11 |
| 2 | 0.198 | -7225.25 | -1430.6 | 0.00092 | 2.10E+11 |
| 3 | 0.57 | -10974.4 | -6255.38 | 0.002122 | 2.10E+11 |
| 4 | 0.51 | -12414.6 | -6331.45 | 0.002716 | 2.10E+11 |
| 5 | 0.492 | -14028 | -6901.8 | 0.003321 | 2.10E+11 |
| 6 | 0.17 | -14028 | -2384.77 | 0.003321 | 2.10E+11 |
| 7 | 0.85 | -14028 | -11923.8 | 0.003321 | 2.10E+11 |
| 8 | 0.08 | -14028 | -1122.24 | 0.003321 | 2.10E+11 |
| 9 | 2.63 | -13483.3 | -35461.1 | 0.003068 | 2.10E+11 |
| 10 | 0.334 | -14193.6 | -4740.65 | 0.0034 | 2.10E+11 |
| 11 | 0.176 | -15120.6 | -2661.22 | 0.003068 | 2.10E+11 |
| 12 | 0.2 | -15120.6 | -3024.12 | 0.003068 | 2.10E+11 |
| 13 | 0.1 | -48990.7 | -4899.07 | 0.032206 | 2.10E+11 |
| 14 | 0.1 | -48990.7 | -4899.07 | 0.032206 | 2.10E+11 |
| 15 | 0.354 | -10669.1 | -3776.86 | 0.001527 | 2.10E+11 |
| 16 | 0.091 | -11183.2 | -1017.67 | 0.001678 | 2.10E+11 |
| 17 | 0.14 | -11183.2 | -1565.65 | 0.001678 | 2.10E+11 |
| 18 | 0.14 | -11183.2 | -1565.65 | 0.001678 | 2.10E+11 |
| 19 | 0.176 | -11183.2 | -1968.24 | 0.001678 | 2.10E+11 |
| 20 | 0.5 | -10669.1 | -5334.54 | 0.001527 | 2.10E+11 |
| 21 | 3.405 | -10669.1 | -36328.2 | 0.001527 | 2.10E+11 |
| 22 | 1 | -10669.1 | -10669.1 | 0.001527 | 2.10E+11 |
| 23 | 0.1 | -48990.7 | -4899.07 | 0.032206 | 2.10E+11 |
| 24 | 0.065 | -48990.7 | -3184.39 | 0.032206 | 2.10E+11 |
| 25 | 0.042 | -67958 | -2854.23 | 0.061972 | 2.10E+11 |
| 26 | 0.287 | -21773.6 | -6249.03 | 0.006362 | 2.10E+11 |
| 27 | 0.254 | -21773.6 | -5530.5 | 0.006362 | 2.10E+11 |
| 28 | 0.106 | -73183.6 | -7757.46 | 0.071869 | 2.10E+11 |
| 29 | 0.032 | -73183.6 | -2341.88 | 0.071869 | 2.10E+11 |
| 30 | 0.074 | -73183.6 | -5415.59 | 0.071869 | 2.10E+11 |
| 31 | 0.289 | -21773.6 | -6292.58 | 0.006362 | 2.10E+11 |
| 32 | 0.227 | 0 | 0 | 0.000541 | 2.10E+11 |
| 33 | 0.198 | 0 | 0 | 0.000541 | 2.10E+11 |
| 34 | 0.198 | 0 | 0 | 0.000541 | 2.10E+11 |
| 35 | 0.227 | 0 | 0 | 0.000541 | 2.10E+11 |
| 36 | 0.227 | 0 | 0 | 0.000541 | 2.10E+11 |
| 37 | 0.198 | 0 | 0 | 0.000541 | 2.10E+11 |
| 38 | 0.198 | 0 | 0 | 0.000541 | 2.10E+11 |
| 39 | 0.227 | 0 | 0 | 0.000541 | 2.10E+11 |
| 40 | 0.227 | 0 | 0 | 0.000541 | 2.10E+11 |
| 41 | 0.198 | 0 | 0 | 0.000541 | 2.10E+11 |
| 42 | 0.198 | 0 | 0 | 0.000541 | 2.10E+11 |
| 43 | 0.227 | 0 | 0 | 0.000541 | 2.10E+11 |
| 44 | 0.227 | 0 | 0 | 0.000541 | 2.10E+11 |
| 45 | 0.198 | 0 | 0 | 0.000541 | 2.10E+11 |
| 46 | 0.198 | 0 | 0 | 0.000541 | 2.10E+11 |
| 47 | 0.227 | 0 | 0 | 0.000541 | 2.10E+11 |
| **Forces** | | | | | | |
| Node No | Fx (N) | Fy (N) | Fz (N) | Mx (Nm) | My (Nm) | Mz (Nm) |
| 1 | 0 | -8504.25 | 0 | 0 | 0 | 0.003367 |
| 2 | 0 | -1459.45 | 0 | 0 | 0 | -0.00402 |
| 3 | 0 | -125225 | 0 | 0 | 0 | -0.00785 |
| 4 | 0 | 0.028327 | 0 | 0 | 0 | -0.00415 |
| 5 | 0 | 0.028675 | 0 | 0 | 0 | 0.006706 |
| 6 | 0 | 233748 | 0 | 0 | 0 | 0.009561 |
| 7 | 0 | -0.01188 | 0 | 0 | 0 | 0.002215 |
| 8 | 0 | -0.10667 | 0 | 0 | 0 | -0.00746 |
| 9 | 0 | 0.104194 | 0 | 0 | 0 | -0.00125 |
| 10 | 0 | 0.007725 | 0 | 0 | 0 | 0.000418 |
| 11 | 0 | -0.03005 | 0 | 0 | 0 | -0.00023 |
| 12 | 0 | 0.025484 | 0 | 0 | 0 | -0.00013 |
| 13 | 0 | -0.11134 | 0 | 0 | 0 | -0.04832 |
| 14 | 0 | 0.191097 | 0 | 0 | 0 | 0.059349 |
| 15 | 0 | -0.08223 | 0 | 0 | 0 | -0.0148 |
| 16 | 0 | -0.00263 | 0 | 0 | 0 | 0.000604 |
| 17 | 0 | 38783.5 | 0 | 0 | 0 | -0.00097 |
| 18 | 0 | -0.00974 | 0 | 0 | 0 | -0.00017 |
| 19 | 0 | 0.022521 | 0 | 0 | 0 | -0.00012 |
| 20 | 0 | -0.01698 | 0 | 0 | 0 | -0.00065 |
| 21 | 0 | 0.005382 | 0 | 0 | 0 | -0.00092 |
| 22 | 0 | 0.000223 | 0 | 0 | 0 | 0.000187 |
| 23 | 0 | 0.000141 | 0 | 0 | 0 | 0.000526 |
| 24 | 0 | -29204 | 0 | 0 | 0 | 0.000152 |
| 25 | 0 | 0.000967 | 0 | 0 | 0 | -0.00878 |
| 26 | 0 | -318.778 | 0 | 0 | 0 | 0.008422 |
| 27 | 0 | -0.00037 | 0 | 0 | 0 | -9.10E-05 |
| 28 | 0 | 79100 | 0 | 0 | 0 | -1.36E-05 |
| 29 | 0 | -0.00042 | 0 | 0 | 0 | 0.0009 |
| 30 | 0 | 0.000745 | 0 | 0 | 0 | -0.00123 |
| 31 | 0 | 61054.9 | 0 | 0 | 0 | 0.000319 |
| 32 | 0 | 2.54E-05 | 0 | 0 | 0 | -6.60E-06 |
| 33 | 0 | -91400 | 0 | 0 | 0 | 1.23E-06 |
| 34 | 0 | -5.01E-06 | 0 | 0 | 0 | -1.58E-06 |
| 35 | 0 | 85853.4 | 0 | 0 | 0 | -1.04E-07 |
| 36 | 0 | 2.45E-07 | 0 | 0 | 0 | 4.79E-08 |
| 37 | 0 | -91400 | 0 | 0 | 0 | -1.33E-08 |
| 38 | 0 | 6.16E-07 | 0 | 0 | 0 | -3.39E-07 |
| 39 | 0 | 89076.4 | 0 | 0 | 0 | -3.50E-08 |
| 40 | 0 | 3.61E-07 | 0 | 0 | 0 | 5.24E-08 |
| 41 | 0 | -91400 | 0 | 0 | 0 | -1.91E-08 |
| 42 | 0 | 2.01E-07 | 0 | 0 | 0 | 4.14E-08 |
| 43 | 0 | 107812 | 0 | 0 | 0 | 3.69E-08 |
| 44 | 0 | -8.17E-08 | 0 | 0 | 0 | 2.10E-08 |
| 45 | 0 | -91400 | 0 | 0 | 0 | -1.12E-08 |
| 46 | 0 | 6.04E-08 | 0 | 0 | 0 | -1.43E-08 |
| 47 | 0 | 35092.8 | 0 | 0 | 0 | 1.58E-09 |
| 48 | 0 | -4.93E-09 | 0 | 0 | 0 | 7.35E-10 |
| **Displacements** | | | | | | |
| Node No | Ux (m) | Uy (m) | Uz (m) | Rx (rad) | Ry (rad) | Rz (rad) |
| 1 | 0 | -0.0012 | 0 | 0 | 0 | 0.000694 |
| 2 | 0 | -0.00106 | 0 | 0 | 0 | 0.000693 |
| 3 | 0 | -0.00092 | 0 | 0 | 0 | 0.00069 |
| 4 | 0 | -0.00053 | 0 | 0 | 0 | 0.000634 |
| 5 | 0 | -0.00023 | 0 | 0 | 0 | 0.000524 |
| 6 | 0 | 0 | 0 | 0 | 0 | 0.000385 |
| 7 | 0 | 5.99E-05 | 0 | 0 | 0 | 0.000329 |
| 8 | 0 | 0.000231 | 0 | 0 | 0 | 9.37E-05 |
| 9 | 0 | 0.000238 | 0 | 0 | 0 | 7.50E-05 |
| 10 | 0 | -0.00019 | 0 | 0 | 0 | -0.00032 |
| 11 | 0 | -0.0003 | 0 | 0 | 0 | -0.00034 |
| 12 | 0 | -0.00036 | 0 | 0 | 0 | -0.00035 |
| 13 | 0 | -0.00043 | 0 | 0 | 0 | -0.00036 |
| 14 | 0 | -0.00047 | 0 | 0 | 0 | -0.00036 |
| 15 | 0 | -0.0005 | 0 | 0 | 0 | -0.00036 |
| 16 | 0 | -0.00063 | 0 | 0 | 0 | -0.00039 |
| 17 | 0 | -0.00067 | 0 | 0 | 0 | -0.0004 |
| 18 | 0 | -0.00073 | 0 | 0 | 0 | -0.00041 |
| 19 | 0 | -0.00079 | 0 | 0 | 0 | -0.00042 |
| 20 | 0 | -0.00086 | 0 | 0 | 0 | -0.00043 |
| 21 | 0 | -0.00108 | 0 | 0 | 0 | -0.00043 |
| 22 | 0 | -0.00211 | 0 | 0 | 0 | -0.00011 |
| 23 | 0 | -0.00216 | 0 | 0 | 0 | -3.58E-06 |
| 24 | 0 | -0.00216 | 0 | 0 | 0 | -3.22E-06 |
| 25 | 0 | -0.00216 | 0 | 0 | 0 | -3.01E-06 |
| 26 | 0 | -0.00216 | 0 | 0 | 0 | -2.95E-06 |
| 27 | 0 | -0.00216 | 0 | 0 | 0 | -1.07E-06 |
| 28 | 0 | -0.00216 | 0 | 0 | 0 | -2.74E-06 |
| 29 | 0 | -0.00216 | 0 | 0 | 0 | -2.86E-06 |
| 30 | 0 | -0.00216 | 0 | 0 | 0 | -2.90E-06 |
| 31 | 0 | -0.00216 | 0 | 0 | 0 | -2.98E-06 |
| 32 | 0 | -0.00216 | 0 | 0 | 0 | -5.11E-06 |
| 33 | 0 | -0.00216 | 0 | 0 | 0 | 4.52E-07 |
| 34 | 0 | -0.00216 | 0 | 0 | 0 | 7.23E-06 |
| 35 | 0 | -0.00216 | 0 | 0 | 0 | -1.06E-06 |
| 36 | 0 | -0.00216 | 0 | 0 | 0 | -9.62E-06 |
| 37 | 0 | -0.00217 | 0 | 0 | 0 | 9.75E-07 |
| 38 | 0 | -0.00216 | 0 | 0 | 0 | 1.01E-05 |
| 39 | 0 | -0.00216 | 0 | 0 | 0 | 2.21E-06 |
| 40 | 0 | -0.00216 | 0 | 0 | 0 | -7.49E-06 |
| 41 | 0 | -0.00216 | 0 | 0 | 0 | 9.08E-07 |
| 42 | 0 | -0.00216 | 0 | 0 | 0 | 7.24E-06 |
| 43 | 0 | -0.00216 | 0 | 0 | 0 | -4.21E-06 |
| 44 | 0 | -0.00216 | 0 | 0 | 0 | -1.48E-05 |
| 45 | 0 | -0.00217 | 0 | 0 | 0 | 2.45E-07 |
| 46 | 0 | -0.00217 | 0 | 0 | 0 | 1.84E-05 |
| 47 | 0 | -0.00216 | 0 | 0 | 0 | 2.45E-05 |
| 48 | 0 | -0.00215 | 0 | 0 | 0 | 2.45E-05 |

**Influence Factors (Prototype Model R):**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| s(1,1)= -5388.83 | s(1,2)= 12901.4 | s(1,3)= -27222.9 | s(1,4)= 20245.4 | s(1,5)= -640.136 | s(1,6)= 126.945 | s(1,7)= -25.5169 | s(1,8)= 3.6436 |
| s(2,1)= 12901.4 | s(2,2)= -36821.8 | s(2,3)= 116251 | s(2,4)= -94837.1 | s(2,5)= 2998.64 | s(2,6)= -594.662 | s(2,7)= 119.574 | s(2,8)= -17.1445 |
| s(3,1)= -27222.9 | s(3,2)= 116251 | s(3,3)= -2.1868E+06 | s(3,4)= 3.6770E+06 | s(3,5)= -1.8894E+06 | s(3,6)= 374689 | s(3,7)= -75344.8 | s(3,8)= 10805.2 |
| s(4,1)= 20245.4 | s(4,2)= -94837.1 | s(4,3)= 3.6770E+06 | s(4,4)= -6.9362E+06 | s(4,5)= 4.2448E+06 | s(4,6)= -1.1006E+06 | s(4,7)= 221307 | s(4,8)= -31737.8 |
| s(5,1)= -640.136 | s(5,2)= 2998.64 | s(5,3)= -1.8894E+06 | s(5,4)= 4.2448E+06 | s(5,5)= -3.6799E+06 | s(5,6)= 1.8657E+06 | s(5,7)= -634536 | s(5,8)= 90999.1 |
| s(6,1)= 126.946 | s(6,2)= -594.663 | s(6,3)= 374689 | s(6,4)=-1.1006E+06 | s(6,5)= 1.8657E+06 | s(6,6)= -2.2266E+06 | s(6,7)= 1.4852+06 | s(6,8)= -397969 |
| s(7,1)= -25.527 | s(7,2)= 119.579 | s(7,3)= -75344.8 | s(7,4)= 221307 | s(7,5)= -634536 | s(7,6)= 1.4852E+06 | s(7,7)= -1.5955E+06 | s(7,8)= 598759 |
| s(8,1)= 3.66085 | s(8,2)= -17.1488 | s(8,3)= 10805.2 | s(8,4)= -31737.8 | s(8,5)= 90999.1 | s(8,6)= -397969 | s(8,7)= 598759 | s(8,8)= -270843 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Model Data:** | | **M** | | | | |
| Node No | Coord. X (m) | Coord. Y (m) | Coord. Z (m) |  | | |
| 1 | 0 | 0 | 0 |
| 2 | 0.026 | 0 | 0 |
| 3 | 0.053 | 0 | 0 |
| 4 | 0.129 | 0 | 0 |
| 5 | 0.197 | 0 | 0 |
| 6 | 0.263 | 0 | 0 |
| 7 | 0.286 | 0 | 0 |
| 8 | 0.4 | 0 | 0 |
| 9 | 0.411 | 0 | 0 |
| 10 | 0.763 | 0 | 0 |
| 11 | 0.808 | 0 | 0 |
| 12 | 0.832 | 0 | 0 |
| 13 | 0.859 | 0 | 0 |
| 14 | 0.872 | 0 | 0 |
| 15 | 0.885 | 0 | 0 |
| 16 | 0.932 | 0 | 0 |
| 17 | 0.944 | 0 | 0 |
| 18 | 0.963 | 0 | 0 |
| 19 | 0.982 | 0 | 0 |
| 20 | 1.006 | 0 | 0 |
| 21 | 1.073 | 0 | 0 |
| 22 | 1.529 | 0 | 0 |
| 23 | 1.663 | 0 | 0 |
| 24 | 1.676 | 0 | 0 |
| 25 | 1.685 | 0 | 0 |
| 26 | 1.691 | 0 | 0 |
| 27 | 1.729 | 0 | 0 |
| 28 | 1.763 | 0 | 0 |
| 29 | 1.777 | 0 | 0 |
| 30 | 1.781 | 0 | 0 |
| 31 | 1.791 | 0 | 0 |
| 32 | 1.83 | 0 | 0 |
| 33 | 1.86 | 0 | 0 |
| 34 | 1.887 | 0 | 0 |
| 35 | 1.914 | 0 | 0 |
| 36 | 1.944 | 0 | 0 |
| 37 | 1.974 | 0 | 0 |
| 38 | 2.001 | 0 | 0 |
| 39 | 2.028 | 0 | 0 |
| 40 | 2.058 | 0 | 0 |
| 41 | 2.088 | 0 | 0 |
| 42 | 2.115 | 0 | 0 |
| 43 | 2.142 | 0 | 0 |
| 44 | 2.172 | 0 | 0 |
| 45 | 2.202 | 0 | 0 |
| 46 | 2.229 | 0 | 0 |
| 47 | 2.256 | 0 | 0 |
| 48 | 2.286 | 0 | 0 |
| Beam Member No | Length (m) | Distr. Weight (kg/m) | Total Weight (kg) | Moment of Inertia (m4) | Young's Modulus (N/m2) |  |
| 1 | 0.026 | -19.896 | -0.5173 | 5.31E-09 | 2.10E+11 |
| 2 | 0.027 | -19.896 | -0.53719 | 5.31E-09 | 2.10E+11 |
| 3 | 0.076 | -30.22 | -2.29672 | 1.23E-08 | 2.10E+11 |
| 4 | 0.068 | -34.186 | -2.32465 | 1.57E-08 | 2.10E+11 |
| 5 | 0.066 | -37.801 | -2.49487 | 1.92E-08 | 2.10E+11 |
| 6 | 0.023 | -37.801 | -0.86942 | 1.92E-08 | 2.10E+11 |
| 7 | 0.114 | -37.801 | -4.30931 | 1.92E-08 | 2.10E+11 |
| 8 | 0.011 | -37.801 | -0.41581 | 1.92E-08 | 2.10E+11 |
| 9 | 0.352 | -36.334 | -12.7896 | 1.77E-08 | 2.10E+11 |
| 10 | 0.045 | -38.247 | -1.72112 | 1.96E-08 | 2.10E+11 |
| 11 | 0.024 | -36.334 | -0.87202 | 1.77E-08 | 2.10E+11 |
| 12 | 0.027 | -36.334 | -0.98102 | 1.77E-08 | 2.10E+11 |
| 13 | 0.013 | -117.721 | -1.53037 | 1.86E-07 | 2.10E+11 |
| 14 | 0.013 | -117.721 | -1.53037 | 1.86E-07 | 2.10E+11 |
| 15 | 0.047 | -25.637 | -1.20494 | 8.82E-09 | 2.10E+11 |
| 16 | 0.012 | -26.872 | -0.32246 | 9.69E-09 | 2.10E+11 |
| 17 | 0.019 | -26.872 | -0.51057 | 9.69E-09 | 2.10E+11 |
| 18 | 0.019 | -26.872 | -0.51057 | 9.69E-09 | 2.10E+11 |
| 19 | 0.024 | -26.872 | -0.64493 | 9.69E-09 | 2.10E+11 |
| 20 | 0.067 | -25.637 | -1.71768 | 8.82E-09 | 2.10E+11 |
| 21 | 0.456 | -25.637 | -11.6905 | 8.82E-09 | 2.10E+11 |
| 22 | 0.134 | -25.637 | -3.43536 | 8.82E-09 | 2.10E+11 |
| 23 | 0.013 | -117.721 | -1.53037 | 1.86E-07 | 2.10E+11 |
| 24 | 0.009 | -117.721 | -1.05949 | 1.86E-07 | 2.10E+11 |
| 25 | 0.006 | -163.298 | -0.97979 | 3.58E-07 | 2.10E+11 |
| 26 | 0.038 | -52.32 | -1.98816 | 3.67E-08 | 2.10E+11 |
| 27 | 0.034 | -52.32 | -1.77888 | 3.67E-08 | 2.10E+11 |
| 28 | 0.014 | -175.855 | -2.46197 | 4.15E-07 | 2.10E+11 |
| 29 | 0.004 | -175.855 | -0.70342 | 4.15E-07 | 2.10E+11 |
| 30 | 0.01 | -175.855 | -1.75855 | 4.15E-07 | 2.10E+11 |
| 31 | 0.039 | -52.32 | -2.04048 | 3.67E-08 | 2.10E+11 |
| 32 | 0.03 | 0 | 0 | 3.12E-09 | 2.10E+11 |
| 33 | 0.027 | 0 | 0 | 3.12E-09 | 2.10E+11 |
| 34 | 0.027 | 0 | 0 | 3.12E-09 | 2.10E+11 |
| 35 | 0.03 | 0 | 0 | 3.12E-09 | 2.10E+11 |
| 36 | 0.03 | 0 | 0 | 3.12E-09 | 2.10E+11 |
| 37 | 0.027 | 0 | 0 | 3.12E-09 | 2.10E+11 |
| 38 | 0.027 | 0 | 0 | 3.12E-09 | 2.10E+11 |
| 39 | 0.03 | 0 | 0 | 3.12E-09 | 2.10E+11 |
| 40 | 0.03 | 0 | 0 | 3.12E-09 | 2.10E+11 |
| 41 | 0.027 | 0 | 0 | 3.12E-09 | 2.10E+11 |
| 42 | 0.027 | 0 | 0 | 3.12E-09 | 2.10E+11 |
| 43 | 0.03 | 0 | 0 | 3.12E-09 | 2.10E+11 |
| 44 | 0.03 | 0 | 0 | 3.12E-09 | 2.10E+11 |
| 45 | 0.027 | 0 | 0 | 3.12E-09 | 2.10E+11 |
| 46 | 0.027 | 0 | 0 | 3.12E-09 | 2.10E+11 |
| 47 | 0.03 | 0 | 0 | 3.12E-09 | 2.10E+11 |
| **Forces** | | | | | | |
| Node No | Fx (N) | Fy (N) | Fz (N) | Mx (Nm) | My (Nm) | Mz (Nm) |
| 1 | 0 | -1.00002 | 0 | 0 | 0 | -2.46E-07 |
| 2 | 0 | -0.17 | 0 | 0 | 0 | -4.22E-07 |
| 3 | 0 | -14.75 | 0 | 0 | 0 | -2.82E-07 |
| 4 | 0 | 3.61E-06 | 0 | 0 | 0 | 2.22E-08 |
| 5 | 0 | -3.45E-06 | 0 | 0 | 0 | 1.10E-08 |
| 6 | 0 | 39.7586 | 0 | 0 | 0 | 9.11E-09 |
| 7 | 0 | -3.23E-06 | 0 | 0 | 0 | 2.30E-08 |
| 8 | 0 | -2.05E-05 | 0 | 0 | 0 | -5.54E-08 |
| 9 | 0 | 2.06E-05 | 0 | 0 | 0 | -1.67E-07 |
| 10 | 0 | 8.77E-06 | 0 | 0 | 0 | 1.92E-07 |
| 11 | 0 | 7.92E-06 | 0 | 0 | 0 | 4.08E-07 |
| 12 | 0 | -2.61E-05 | 0 | 0 | 0 | 1.07E-07 |
| 13 | 0 | 9.55E-06 | 0 | 0 | 0 | -9.51E-07 |
| 14 | 0 | 3.39E-05 | 0 | 0 | 0 | 1.42E-06 |
| 15 | 0 | -3.52E-05 | 0 | 0 | 0 | -2.10E-07 |
| 16 | 0 | 2.93E-06 | 0 | 0 | 0 | -3.15E-08 |
| 17 | 0 | 25.771 | 0 | 0 | 0 | 1.01E-08 |
| 18 | 0 | -4.16E-07 | 0 | 0 | 0 | -6.22E-09 |
| 19 | 0 | 2.39E-06 | 0 | 0 | 0 | -1.38E-08 |
| 20 | 0 | -1.21E-06 | 0 | 0 | 0 | 2.09E-08 |
| 21 | 0 | 4.81E-08 | 0 | 0 | 0 | -3.28E-09 |
| 22 | 0 | 1.85E-08 | 0 | 0 | 0 | 1.58E-09 |
| 23 | 0 | -2.61E-08 | 0 | 0 | 0 | 1.25E-08 |
| 24 | 0 | -3.44 | 0 | 0 | 0 | -1.84E-08 |
| 25 | 0 | -2.37E-07 | 0 | 0 | 0 | -3.38E-08 |
| 26 | 0 | -7.45277 | 0 | 0 | 0 | 3.45E-08 |
| 27 | 0 | 3.30E-08 | 0 | 0 | 0 | -3.53E-10 |
| 28 | 0 | 9.32 | 0 | 0 | 0 | 2.29E-09 |
| 29 | 0 | -1.08E-06 | 0 | 0 | 0 | 1.13E-08 |
| 30 | 0 | 5.24E-07 | 0 | 0 | 0 | 4.14E-09 |
| 31 | 0 | 26.3627 | 0 | 0 | 0 | -1.19E-08 |
| 32 | 0 | 3.17E-09 | 0 | 0 | 0 | 3.23E-10 |
| 33 | 0 | -10.77 | 0 | 0 | 0 | -7.46E-11 |
| 34 | 0 | 1.25E-08 | 0 | 0 | 0 | -1.35E-11 |
| 35 | 0 | 8.71621 | 0 | 0 | 0 | 1.31E-10 |
| 36 | 0 | -3.14E-09 | 0 | 0 | 0 | 6.64E-12 |
| 37 | 0 | -10.77 | 0 | 0 | 0 | 3.05E-11 |
| 38 | 0 | -4.82E-09 | 0 | 0 | 0 | 3.42E-11 |
| 39 | 0 | 10.7165 | 0 | 0 | 0 | -2.65E-13 |
| 40 | 0 | -1.49E-09 | 0 | 0 | 0 | -6.79E-12 |
| 41 | 0 | -10.77 | 0 | 0 | 0 | -1.82E-12 |
| 42 | 0 | -8.65E-10 | 0 | 0 | 0 | 1.09E-11 |
| 43 | 0 | 12.7782 | 0 | 0 | 0 | -6.47E-13 |
| 44 | 0 | 4.03E-11 | 0 | 0 | 0 | 1.11E-12 |
| 45 | 0 | -10.77 | 0 | 0 | 0 | 1.08E-12 |
| 46 | 0 | 3.30E-11 | 0 | 0 | 0 | 1.20E-12 |
| 47 | 0 | 3.99744 | 0 | 0 | 0 | 6.77E-13 |
| 48 | 0 | -1.18E-11 | 0 | 0 | 0 | -9.66E-15 |
| **Displacements** | | | | | | |
| Node No | Ux (m) | Uy (m) | Uz (m) | Rx (rad) | Ry (rad) | Rz (rad) |
| 1 | 0 | -4.04E-05 | 0 | 0 | 0 | 0.000191 |
| 2 | 0 | -3.54E-05 | 0 | 0 | 0 | 0.000191 |
| 3 | 0 | -3.03E-05 | 0 | 0 | 0 | 0.00019 |
| 4 | 0 | -1.64E-05 | 0 | 0 | 0 | 0.000167 |
| 5 | 0 | -6.35E-06 | 0 | 0 | 0 | 0.000123 |
| 6 | 0 | 0 | 0 | 0 | 0 | 6.41E-05 |
| 7 | 0 | 1.19E-06 | 0 | 0 | 0 | 4.02E-05 |
| 8 | 0 | 1.02E-07 | 0 | 0 | 0 | -5.18E-05 |
| 9 | 0 | -5.09E-07 | 0 | 0 | 0 | -5.86E-05 |
| 10 | 0 | -4.86E-05 | 0 | 0 | 0 | -0.00019 |
| 11 | 0 | -5.77E-05 | 0 | 0 | 0 | -0.00021 |
| 12 | 0 | -6.28E-05 | 0 | 0 | 0 | -0.00022 |
| 13 | 0 | -6.87E-05 | 0 | 0 | 0 | -0.00023 |
| 14 | 0 | -7.17E-05 | 0 | 0 | 0 | -0.00023 |
| 15 | 0 | -7.47E-05 | 0 | 0 | 0 | -0.00023 |
| 16 | 0 | -8.66E-05 | 0 | 0 | 0 | -0.00028 |
| 17 | 0 | -9.00E-05 | 0 | 0 | 0 | -0.00029 |
| 18 | 0 | -9.58E-05 | 0 | 0 | 0 | -0.00031 |
| 19 | 0 | -0.0001 | 0 | 0 | 0 | -0.00033 |
| 20 | 0 | -0.00011 | 0 | 0 | 0 | -0.00035 |
| 21 | 0 | -0.00014 | 0 | 0 | 0 | -0.00039 |
| 22 | 0 | -0.00028 | 0 | 0 | 0 | -0.00014 |
| 23 | 0 | -0.00029 | 0 | 0 | 0 | -6.49E-06 |
| 24 | 0 | -0.00029 | 0 | 0 | 0 | -5.96E-06 |
| 25 | 0 | -0.00029 | 0 | 0 | 0 | -5.60E-06 |
| 26 | 0 | -0.00029 | 0 | 0 | 0 | -5.49E-06 |
| 27 | 0 | -0.00029 | 0 | 0 | 0 | -1.78E-07 |
| 28 | 0 | -0.00029 | 0 | 0 | 0 | 1.40E-06 |
| 29 | 0 | -0.00029 | 0 | 0 | 0 | 1.38E-06 |
| 30 | 0 | -0.00029 | 0 | 0 | 0 | 1.37E-06 |
| 31 | 0 | -0.00029 | 0 | 0 | 0 | 1.33E-06 |
| 32 | 0 | -0.00029 | 0 | 0 | 0 | 7.19E-09 |
| 33 | 0 | -0.00029 | 0 | 0 | 0 | -5.54E-07 |
| 34 | 0 | -0.00029 | 0 | 0 | 0 | 1.02E-06 |
| 35 | 0 | -0.00029 | 0 | 0 | 0 | -1.74E-06 |
| 36 | 0 | -0.00029 | 0 | 0 | 0 | -3.91E-06 |
| 37 | 0 | -0.00029 | 0 | 0 | 0 | 5.27E-07 |
| 38 | 0 | -0.00029 | 0 | 0 | 0 | 4.19E-06 |
| 39 | 0 | -0.00029 | 0 | 0 | 0 | 1.24E-06 |
| 40 | 0 | -0.00029 | 0 | 0 | 0 | -2.45E-06 |
| 41 | 0 | -0.00029 | 0 | 0 | 0 | 4.05E-07 |
| 42 | 0 | -0.00029 | 0 | 0 | 0 | 2.58E-06 |
| 43 | 0 | -0.00029 | 0 | 0 | 0 | -1.93E-06 |
| 44 | 0 | -0.00029 | 0 | 0 | 0 | -5.99E-06 |
| 45 | 0 | -0.00029 | 0 | 0 | 0 | -7.67E-07 |
| 46 | 0 | -0.00029 | 0 | 0 | 0 | 5.90E-06 |
| 47 | 0 | -0.00029 | 0 | 0 | 0 | 8.12E-06 |
| 48 | 0 | -0.00029 | 0 | 0 | 0 | 8.12E-06 |

**Influence Factors (Scaled Model M):**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| s(1,1)= -13.0443 | s(1,2)= 31.301 | s(1,3)= -69.5587 | s(1,4)= 55.0107 | s(1,5)= -4.59792 | s(1,6)= 1.11613 | s(1,7)= -0.271302 | s(1,8)= 0.0443906 |
| s(2,1)= 31.301 | s(2,2)= -89.4704 | s(2,3)= 297.023 | s(2,4)= -256.121 | s(2,5)= 21.4072 | s(2,6)= -5.19653 | s(2,7)= 1.26315 | s(2,8)= -0.206612 |
| s(3,1)= -69.5587 | s(3,2)= 297.023 | s(3,3)= -6367.77 | s(3,4)= 10993.1 | s(3,5)= -6016.29 | s(3,6)= 1460.44 | s(3,7)= -354.995 | s(3,8)= 58.063 |
| s(4,1)= 55.0107 | s(4,2)= -256.121 | s(4,3)= 10993.1 | s(4,4)= -20923.4 | s(4,5)= 13219 | s(4,6)= -3875.65 | s(4,7)= 942.071 | s(4,8)= -154.085 |
| s(5,1)= -4.59792 | s(5,2)= 21.4072 | s(5,3)= -6016.29 | s(5,4)= 13219 | s(5,5)= -11202.5 | s(5,6)= 5690.16 | s(5,7)= -2041.09 | s(5,8)= 333.84 |
| s(6,1)= 1.11613 | s(6,2)= -5.19653 | s(6,3)= 1460.44 | s(6,4)= -3875.65 | s(6,5)= 5690.16 | s(6,6)= -6313.05 | s(6,7)= 4166.36 | s(6,8)= -1124.17 |
| s(7,1)= -0.271303 | s(7,2)= 1.26314 | s(7,3)= -354.995 | s(7,4)= 942.071 | s(7,5)= -2041.09 | s(7,6)= 4166.36 | s(7,7)= -4302.51 | s(7,8)= 1589.17 |
| s(8,1)= 0.0443744 | s(8,2)= -0.2066 | s(8,3)= 58.063 | s(8,4)= -154.085 | s(8,5)= 333.84 | s(8,6)= -1124.17 | s(8,7)= 1589.17 | s(8,8)= -702.649 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Model Data:** | | **Model** | | | | |
| Node No | Coord. X (m) | Coord. Y (m) | Coord. Z (m) |  | | |
| 1 | 0 | 0 | 0 |
| 2 | 0.031 | 0 | 0 |
| 3 | 0.062 | 0 | 0 |
| 4 | 0.141 | 0 | 0 |
| 5 | 0.209 | 0 | 0 |
| 6 | 0.272 | 0 | 0 |
| 7 | 0.294 | 0 | 0 |
| 8 | 0.404 | 0 | 0 |
| 9 | 0.414 | 0 | 0 |
| 10 | 0.758 | 0 | 0 |
| 11 | 0.801 | 0 | 0 |
| 12 | 0.825 | 0 | 0 |
| 13 | 0.852 | 0 | 0 |
| 14 | 0.861 | 0 | 0 |
| 15 | 0.87 | 0 | 0 |
| 16 | 0.924 | 0 | 0 |
| 17 | 0.938 | 0 | 0 |
| 18 | 0.959 | 0 | 0 |
| 19 | 0.98 | 0 | 0 |
| 20 | 1.006 | 0 | 0 |
| 21 | 1.082 | 0 | 0 |
| 22 | 1.601 | 0 | 0 |
| 23 | 1.753 | 0 | 0 |
| 24 | 1.762 | 0 | 0 |
| 25 | 1.768 | 0 | 0 |
| 26 | 1.771 | 0 | 0 |
| 27 | 1.805 | 0 | 0 |
| 28 | 1.836 | 0 | 0 |
| 29 | 1.845 | 0 | 0 |
| 30 | 1.848 | 0 | 0 |
| 31 | 1.854 | 0 | 0 |
| 32 | 1.893 | 0 | 0 |
| 33 | 1.923 | 0 | 0 |
| 34 | 1.95 | 0 | 0 |
| 35 | 1.977 | 0 | 0 |
| 36 | 2.007 | 0 | 0 |
| 37 | 2.037 | 0 | 0 |
| 38 | 2.064 | 0 | 0 |
| 39 | 2.091 | 0 | 0 |
| 40 | 2.121 | 0 | 0 |
| 41 | 2.151 | 0 | 0 |
| 42 | 2.178 | 0 | 0 |
| 43 | 2.205 | 0 | 0 |
| 44 | 2.235 | 0 | 0 |
| 45 | 2.265 | 0 | 0 |
| 46 | 2.292 | 0 | 0 |
| 47 | 2.319 | 0 | 0 |
| 48 | 2.349 | 0 | 0 |
| Beam Member No | Length (m) | Distr. Weight (kg/m) | Total Weight (kg) | Moment of Inertia (m4) | Young's Modulus (N/m2) |  |
| 1 | 0.031 | -37.801 | -1.17183 | 1.92E-08 | 2.10E+11 |
| 2 | 0.031 | -37.801 | -1.17183 | 1.92E-08 | 2.10E+11 |
| 3 | 0.079 | -37.801 | -2.98628 | 1.92E-08 | 2.10E+11 |
| 4 | 0.068 | -37.801 | -2.57047 | 1.92E-08 | 2.10E+11 |
| 5 | 0.063 | -37.801 | -2.38146 | 1.92E-08 | 2.10E+11 |
| 6 | 0.022 | -37.801 | -0.83162 | 1.92E-08 | 2.10E+11 |
| 7 | 0.11 | -37.801 | -4.15811 | 1.92E-08 | 2.10E+11 |
| 8 | 0.01 | -37.801 | -0.37801 | 1.92E-08 | 2.10E+11 |
| 9 | 0.344 | -37.801 | -13.0035 | 1.92E-08 | 2.10E+11 |
| 10 | 0.043 | -37.801 | -1.62544 | 1.92E-08 | 2.10E+11 |
| 11 | 0.024 | -37.801 | -0.90722 | 1.92E-08 | 2.10E+11 |
| 12 | 0.027 | -37.801 | -1.02063 | 1.92E-08 | 2.10E+11 |
| 13 | 0.009 | -37.801 | -0.34021 | 1.92E-08 | 2.10E+11 |
| 14 | 0.009 | -37.801 | -0.34021 | 1.92E-08 | 2.10E+11 |
| 15 | 0.054 | -37.801 | -2.04125 | 1.92E-08 | 2.10E+11 |
| 16 | 0.014 | -37.801 | -0.52921 | 1.92E-08 | 2.10E+11 |
| 17 | 0.021 | -37.801 | -0.79382 | 1.92E-08 | 2.10E+11 |
| 18 | 0.021 | -37.801 | -0.79382 | 1.92E-08 | 2.10E+11 |
| 19 | 0.026 | -37.801 | -0.98283 | 1.92E-08 | 2.10E+11 |
| 20 | 0.076 | -37.801 | -2.87288 | 1.92E-08 | 2.10E+11 |
| 21 | 0.519 | -37.801 | -19.6187 | 1.92E-08 | 2.10E+11 |
| 22 | 0.152 | -37.801 | -5.74575 | 1.92E-08 | 2.10E+11 |
| 23 | 0.009 | -37.801 | -0.34021 | 1.92E-08 | 2.10E+11 |
| 24 | 0.006 | -37.801 | -0.22681 | 1.92E-08 | 2.10E+11 |
| 25 | 0.003 | -37.801 | -0.1134 | 1.92E-08 | 2.10E+11 |
| 26 | 0.034 | -37.801 | -1.28523 | 1.92E-08 | 2.10E+11 |
| 27 | 0.031 | -37.801 | -1.17183 | 1.92E-08 | 2.10E+11 |
| 28 | 0.009 | -37.801 | -0.34021 | 1.92E-08 | 2.10E+11 |
| 29 | 0.003 | -37.801 | -0.1134 | 1.92E-08 | 2.10E+11 |
| 30 | 0.006 | -37.801 | -0.22681 | 1.92E-08 | 2.10E+11 |
| 31 | 0.039 | -37.801 | -1.47424 | 1.92E-08 | 2.10E+11 |
| 32 | 0.03 | 0 | 0 | 1.92E-08 | 2.10E+11 |
| 33 | 0.027 | 0 | 0 | 1.92E-08 | 2.10E+11 |
| 34 | 0.027 | 0 | 0 | 1.92E-08 | 2.10E+11 |
| 35 | 0.03 | 0 | 0 | 1.92E-08 | 2.10E+11 |
| 36 | 0.03 | 0 | 0 | 1.92E-08 | 2.10E+11 |
| 37 | 0.027 | 0 | 0 | 1.92E-08 | 2.10E+11 |
| 38 | 0.027 | 0 | 0 | 1.92E-08 | 2.10E+11 |
| 39 | 0.03 | 0 | 0 | 1.92E-08 | 2.10E+11 |
| 40 | 0.03 | 0 | 0 | 1.92E-08 | 2.10E+11 |
| 41 | 0.027 | 0 | 0 | 1.92E-08 | 2.10E+11 |
| 42 | 0.027 | 0 | 0 | 1.92E-08 | 2.10E+11 |
| 43 | 0.03 | 0 | 0 | 1.92E-08 | 2.10E+11 |
| 44 | 0.03 | 0 | 0 | 1.92E-08 | 2.10E+11 |
| 45 | 0.027 | 0 | 0 | 1.92E-08 | 2.10E+11 |
| 46 | 0.027 | 0 | 0 | 1.92E-08 | 2.10E+11 |
| 47 | 0.03 | 0 | 0 | 1.92E-08 | 2.10E+11 |
| **Forces** | | | | | | |
| Node No | Fx (N) | Fy (N) | Fz (N) | Mx (Nm) | My (Nm) | Mz (Nm) |
| 1 | 0 | -35.0003 | 0 | 0 | 0 | -4.34E-06 |
| 2 | 0 | 0.000203 | 0 | 0 | 0 | -6.46E-06 |
| 3 | 0 | 0.000106 | 0 | 0 | 0 | -1.11E-06 |
| 4 | 0 | -3.73E-05 | 0 | 0 | 0 | -5.24E-07 |
| 5 | 0 | 2.61E-05 | 0 | 0 | 0 | -9.94E-07 |
| 6 | 0 | 72.1484 | 0 | 0 | 0 | -6.71E-07 |
| 7 | 0 | 3.51E-05 | 0 | 0 | 0 | -1.45E-07 |
| 8 | 0 | -0.0004 | 0 | 0 | 0 | -2.02E-06 |
| 9 | 0 | 0.000398 | 0 | 0 | 0 | -1.93E-06 |
| 10 | 0 | 4.86E-06 | 0 | 0 | 0 | 1.12E-07 |
| 11 | 0 | -9.60E-05 | 0 | 0 | 0 | -9.80E-07 |
| 12 | 0 | 0.000136 | 0 | 0 | 0 | -4.94E-07 |
| 13 | 0 | -1.37E-05 | 0 | 0 | 0 | 9.27E-07 |
| 14 | 0 | -0.00013 | 0 | 0 | 0 | -5.19E-07 |
| 15 | 0 | 0.000109 | 0 | 0 | 0 | -2.49E-07 |
| 16 | 0 | -3.77E-06 | 0 | 0 | 0 | 1.98E-07 |
| 17 | 0 | 16.7495 | 0 | 0 | 0 | -9.65E-08 |
| 18 | 0 | -3.21E-06 | 0 | 0 | 0 | -2.31E-07 |
| 19 | 0 | 1.23E-05 | 0 | 0 | 0 | 7.68E-09 |
| 20 | 0 | -3.12E-06 | 0 | 0 | 0 | -7.13E-08 |
| 21 | 0 | 1.20E-06 | 0 | 0 | 0 | -3.16E-08 |
| 22 | 0 | -9.77E-08 | 0 | 0 | 0 | 4.33E-10 |
| 23 | 0 | -6.56E-07 | 0 | 0 | 0 | -2.36E-08 |
| 24 | 0 | -3.44 | 0 | 0 | 0 | 2.88E-08 |
| 25 | 0 | -1.74E-06 | 0 | 0 | 0 | -9.68E-09 |
| 26 | 0 | 3.72632 | 0 | 0 | 0 | -3.80E-09 |
| 27 | 0 | 1.67E-08 | 0 | 0 | 0 | 5.66E-10 |
| 28 | 0 | 9.32 | 0 | 0 | 0 | -7.52E-10 |
| 29 | 0 | 1.16E-07 | 0 | 0 | 0 | -1.15E-08 |
| 30 | 0 | 3.50E-07 | 0 | 0 | 0 | 1.32E-08 |
| 31 | 0 | 13.0111 | 0 | 0 | 0 | -5.39E-09 |
| 32 | 0 | 8.21E-08 | 0 | 0 | 0 | -5.33E-10 |
| 33 | 0 | -10.77 | 0 | 0 | 0 | 1.22E-09 |
| 34 | 0 | -2.05E-08 | 0 | 0 | 0 | 9.55E-10 |
| 35 | 0 | 11.0443 | 0 | 0 | 0 | 8.71E-10 |
| 36 | 0 | -8.15E-09 | 0 | 0 | 0 | 4.13E-11 |
| 37 | 0 | -10.77 | 0 | 0 | 0 | 1.84E-10 |
| 38 | 0 | 5.77E-09 | 0 | 0 | 0 | 3.48E-10 |
| 39 | 0 | 10.2181 | 0 | 0 | 0 | 1.06E-10 |
| 40 | 0 | -3.71E-09 | 0 | 0 | 0 | -4.86E-11 |
| 41 | 0 | -10.77 | 0 | 0 | 0 | -5.79E-12 |
| 42 | 0 | -6.40E-09 | 0 | 0 | 0 | 4.64E-11 |
| 43 | 0 | 12.867 | 0 | 0 | 0 | -8.97E-12 |
| 44 | 0 | -1.43E-09 | 0 | 0 | 0 | -6.49E-12 |
| 45 | 0 | -10.77 | 0 | 0 | 0 | -4.09E-12 |
| 46 | 0 | -2.45E-10 | 0 | 0 | 0 | -1.98E-12 |
| 47 | 0 | 3.99255 | 0 | 0 | 0 | 5.13E-12 |
| 48 | 0 | -1.19E-10 | 0 | 0 | 0 | -1.27E-13 |
| **Displacements** | | | | | | |
| Node No | Ux (m) | Uy (m) | Uz (m) | Rx (rad) | Ry (rad) | Rz (rad) |
| 1 | 0 | -0.00017 | 0 | 0 | 0 | 0.000743 |
| 2 | 0 | -0.00015 | 0 | 0 | 0 | 0.000739 |
| 3 | 0 | -0.00013 | 0 | 0 | 0 | 0.000726 |
| 4 | 0 | -7.05E-05 | 0 | 0 | 0 | 0.000653 |
| 5 | 0 | -2.96E-05 | 0 | 0 | 0 | 0.000539 |
| 6 | 0 | 0 | 0 | 0 | 0 | 0.00039 |
| 7 | 0 | 7.93E-06 | 0 | 0 | 0 | 0.000332 |
| 8 | 0 | 3.03E-05 | 0 | 0 | 0 | 8.71E-05 |
| 9 | 0 | 3.10E-05 | 0 | 0 | 0 | 6.82E-05 |
| 10 | 0 | -2.48E-05 | 0 | 0 | 0 | -0.00032 |
| 11 | 0 | -3.91E-05 | 0 | 0 | 0 | -0.00034 |
| 12 | 0 | -4.74E-05 | 0 | 0 | 0 | -0.00035 |
| 13 | 0 | -5.71E-05 | 0 | 0 | 0 | -0.00037 |
| 14 | 0 | -6.04E-05 | 0 | 0 | 0 | -0.00037 |
| 15 | 0 | -6.38E-05 | 0 | 0 | 0 | -0.00037 |
| 16 | 0 | -8.45E-05 | 0 | 0 | 0 | -0.00039 |
| 17 | 0 | -9.00E-05 | 0 | 0 | 0 | -0.0004 |
| 18 | 0 | -9.84E-05 | 0 | 0 | 0 | -0.0004 |
| 19 | 0 | -0.00011 | 0 | 0 | 0 | -0.00041 |
| 20 | 0 | -0.00012 | 0 | 0 | 0 | -0.00041 |
| 21 | 0 | -0.00015 | 0 | 0 | 0 | -0.00041 |
| 22 | 0 | -0.00028 | 0 | 0 | 0 | -7.92E-05 |
| 23 | 0 | -0.00029 | 0 | 0 | 0 | -9.01E-06 |
| 24 | 0 | -0.00029 | 0 | 0 | 0 | -6.75E-06 |
| 25 | 0 | -0.00029 | 0 | 0 | 0 | -5.40E-06 |
| 26 | 0 | -0.00029 | 0 | 0 | 0 | -4.78E-06 |
| 27 | 0 | -0.00029 | 0 | 0 | 0 | 1.34E-07 |
| 28 | 0 | -0.00029 | 0 | 0 | 0 | 1.11E-06 |
| 29 | 0 | -0.00029 | 0 | 0 | 0 | 8.23E-07 |
| 30 | 0 | -0.00029 | 0 | 0 | 0 | 6.98E-07 |
| 31 | 0 | -0.00029 | 0 | 0 | 0 | 4.07E-07 |
| 32 | 0 | -0.00029 | 0 | 0 | 0 | -5.53E-07 |
| 33 | 0 | -0.00029 | 0 | 0 | 0 | 5.44E-08 |
| 34 | 0 | -0.00029 | 0 | 0 | 0 | 5.73E-07 |
| 35 | 0 | -0.00029 | 0 | 0 | 0 | 4.04E-08 |
| 36 | 0 | -0.00029 | 0 | 0 | 0 | -5.52E-07 |
| 37 | 0 | -0.00029 | 0 | 0 | 0 | 2.57E-08 |
| 38 | 0 | -0.00029 | 0 | 0 | 0 | 5.70E-07 |
| 39 | 0 | -0.00029 | 0 | 0 | 0 | 1.12E-07 |
| 40 | 0 | -0.00029 | 0 | 0 | 0 | -4.30E-07 |
| 41 | 0 | -0.00029 | 0 | 0 | 0 | 7.33E-08 |
| 42 | 0 | -0.00029 | 0 | 0 | 0 | 4.46E-07 |
| 43 | 0 | -0.00029 | 0 | 0 | 0 | -2.84E-07 |
| 44 | 0 | -0.00029 | 0 | 0 | 0 | -9.50E-07 |
| 45 | 0 | -0.00029 | 0 | 0 | 0 | -1.01E-07 |
| 46 | 0 | -0.00029 | 0 | 0 | 0 | 9.83E-07 |
| 47 | 0 | -0.00029 | 0 | 0 | 0 | 1.34E-06 |
| 48 | 0 | -0.00029 | 0 | 0 | 0 | 1.34E-06 |

**Influence Factors (Equivalent Model):**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| s(1,1)=  -20.7887 | s(1,2)=  44.9881 | s(1,3)=  -114.898 | s(1,4)=  103.13 | s(1,5)=  -15.863 | s(1,6)=  4.26833 | s(1,7)=  -0.994913 | s(1,8)=  0.15811 |
| s(2,1)=  44.9881 | s(2,2)=  -116.432 | s(2,3)=  496.011 | s(2,4)=  -482.759 | s(2,5)=  74.2558 | s(2,6)=  -19.9803 | s(2,7)=  4.65683 | s(2,8)=  -0.740319 |
| s(3,1)=  -114.898 | s(3,2)=  496.011 | s(3,3)=  -12753 | s(3,4)=  20411.8 | s(3,5)=  -10259.3 | s(3,6)=  2760.5 | s(3,7)=  -643.393 | s(3,8)=  102.28 |
| s(4,1)=  103.13 | s(4,2)=  -482.759 | s(4,3)=  20411.8 | s(4,4)=  -38000.5 | s(4,5)=  26660.5 | s(4,6)=  -10811.4 | s(4,7)=  2519.83 | s(4,8)=  -400.575 |
| s(5,1)=  -15.863 | s(5,2)=  74.2558 | s(5,3)=  -10259.3 | s(5,4)=  26660.5 | s(5,5)=  -33968.1 | s(5,6)=  25945.8 | s(5,7)=  -10032.1 | s(5,8)=  1594.79 |
| s(6,1)=  4.26831 | s(6,2)=  -19.9803 | s(6,3)=  2760.5 | s(6,4)=  -10811.4 | s(6,5)=  25945.8 | s(6,6)=  -35531.8 | s(6,7)=  24220.8 | s(6,8)=  -6568.28 |
| s(7,1)=  -0.99482 | s(7,2)=  4.65682 | s(7,3)=  -643.393 | s(7,4)=  2519.83 | s(7,5)=  -10032.1 | s(7,6)=  24220.8 | s(7,7)=  -25569.4 | s(7,8)=  9500.57 |
| s(8,1)=  0.158146 | s(8,2)=  -0.740291 | s(8,3)=  102.28 | s(8,4)=  -400.575 | s(8,5)=  1594.79 | s(8,6)=  -6568.28 | s(8,7)=  9500.57 | s(8,8)=  -4228.21 |

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| **R** | | | | | |
| **Node No** | **Dist** | **Fy (N)** | **Mz (Nm)** | **Uy (m)** | **Rz (rad)** |
| 1 | 0 | -8504.25 | 0.003367 | -0.0012 | 0.000694 |
| 2 | 0.197 | -1459.45 | -0.00402 | -0.00106 | 0.000693 |
| 3 | 0.395 | -125225 | -0.00785 | -0.00092 | 0.00069 |
| 4 | 0.965 | 0.028327 | -0.00415 | -0.00053 | 0.000634 |
| 5 | 1.475 | 0.028675 | 0.006706 | -0.00023 | 0.000524 |
| 6 | 1.967 | 233748 | 0.009561 | 0 | 0.000385 |
| 7 | 2.137 | -0.01188 | 0.002215 | 5.99E-05 | 0.000329 |
| 8 | 2.987 | -0.10667 | -0.00746 | 0.000231 | 9.37E-05 |
| 9 | 3.067 | 0.104194 | -0.00125 | 0.000238 | 7.50E-05 |
| 10 | 5.697 | 0.007725 | 0.000418 | -0.00019 | -0.00032 |
| 11 | 6.031 | -0.03005 | -0.00023 | -0.0003 | -0.00034 |
| 12 | 6.207 | 0.025484 | -0.00013 | -0.00036 | -0.00035 |
| 13 | 6.407 | -0.11134 | -0.04832 | -0.00043 | -0.00036 |
| 14 | 6.507 | 0.191097 | 0.059349 | -0.00047 | -0.00036 |
| 15 | 6.607 | -0.08223 | -0.0148 | -0.0005 | -0.00036 |
| 16 | 6.961 | -0.00263 | 0.000604 | -0.00063 | -0.00039 |
| 17 | 7.052 | 38783.5 | -0.00097 | -0.00067 | -0.0004 |
| 18 | 7.192 | -0.00974 | -0.00017 | -0.00073 | -0.00041 |
| 19 | 7.332 | 0.022521 | -0.00012 | -0.00079 | -0.00042 |
| 20 | 7.508 | -0.01698 | -0.00065 | -0.00086 | -0.00043 |
| 21 | 8.008 | 0.005382 | -0.00092 | -0.00108 | -0.00043 |
| 22 | 11.413 | 0.000223 | 0.000187 | -0.00211 | -0.00011 |
| 23 | 12.413 | 0.000141 | 0.000526 | -0.00216 | -3.58E-06 |
| 24 | 12.513 | -29204 | 0.000152 | -0.00216 | -3.22E-06 |
| 25 | 12.578 | 0.000967 | -0.00878 | -0.00216 | -3.01E-06 |
| 26 | 12.62 | -318.778 | 0.008422 | -0.00216 | -2.95E-06 |
| 27 | 12.907 | -0.00037 | -9.10E-05 | -0.00216 | -1.07E-06 |
| 28 | 13.161 | 79100 | -1.36E-05 | -0.00216 | -2.74E-06 |
| 29 | 13.267 | -0.00042 | 0.0009 | -0.00216 | -2.86E-06 |
| 30 | 13.299 | 0.000745 | -0.00123 | -0.00216 | -2.90E-06 |
| 31 | 13.373 | 61054.9 | 0.000319 | -0.00216 | -2.98E-06 |
| 32 | 13.662 | 2.54E-05 | -6.60E-06 | -0.00216 | -5.11E-06 |
| 33 | 13.889 | -91400 | 1.23E-06 | -0.00216 | 4.52E-07 |
| 34 | 14.087 | -5.01E-06 | -1.58E-06 | -0.00216 | 7.23E-06 |
| 35 | 14.285 | 85853.4 | -1.04E-07 | -0.00216 | -1.06E-06 |
| 36 | 14.512 | 2.45E-07 | 4.79E-08 | -0.00216 | -9.62E-06 |
| 37 | 14.739 | -91400 | -1.33E-08 | -0.00217 | 9.75E-07 |
| 38 | 14.937 | 6.16E-07 | -3.39E-07 | -0.00216 | 1.01E-05 |
| 39 | 15.135 | 89076.4 | -3.50E-08 | -0.00216 | 2.21E-06 |
| 40 | 15.362 | 3.61E-07 | 5.24E-08 | -0.00216 | -7.49E-06 |
| 41 | 15.589 | -91400 | -1.91E-08 | -0.00216 | 9.08E-07 |
| 42 | 15.787 | 2.01E-07 | 4.14E-08 | -0.00216 | 7.24E-06 |
| 43 | 15.985 | 107812 | 3.69E-08 | -0.00216 | -4.21E-06 |
| 44 | 16.212 | -8.17E-08 | 2.10E-08 | -0.00216 | -1.48E-05 |
| 45 | 16.439 | -91400 | -1.12E-08 | -0.00217 | 2.45E-07 |
| 46 | 16.637 | 6.04E-08 | -1.43E-08 | -0.00217 | 1.84E-05 |
| 47 | 16.835 | 35092.8 | 1.58E-09 | -0.00216 | 2.45E-05 |
| 48 | 17.062 | -4.93E-09 | 7.35E-10 | -0.00215 | 2.45E-05 |

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| **M** | | | | | | | | |
| **Node No** | **Coord. X (m)** | **Fy (N)** | **Mz (Nm)** | **Uy (m)** | **Rz (rad)** |  | **Uy - reverse M** | **M error** |
| 1 | 0 | -1.00002 | -2.46E-07 | -4.04E-05 | 0.000191 | -3.02E-04 | -8.94E-01 |
| 2 | 0.026 | -0.17 | -4.22E-07 | -3.54E-05 | 0.000191 | -2.64E-04 | -7.95E-01 |
| 3 | 0.053 | -14.75 | -2.82E-07 | -3.03E-05 | 0.00019 | -2.26E-04 | -6.96E-01 |
| 4 | 0.129 | 3.61E-06 | 2.22E-08 | -1.64E-05 | 0.000167 | -1.23E-04 | -4.11E-01 |
| 5 | 0.197 | -3.45E-06 | 1.10E-08 | -6.35E-06 | 0.000123 | -4.74E-05 | -1.83E-01 |
| 6 | 0.263 | 39.7586 | 9.11E-09 | 0 | 6.41E-05 | 0.00E+00 | 0.00E+00 |
| 7 | 0.286 | -3.23E-06 | 2.30E-08 | 1.19E-06 | 4.02E-05 | 8.86E-06 | 5.11E-02 |
| 8 | 0.4 | -2.05E-05 | -5.54E-08 | 1.02E-07 | -5.18E-05 | 7.60E-07 | 2.30E-01 |
| 9 | 0.411 | 2.06E-05 | -1.67E-07 | -5.09E-07 | -5.86E-05 | -3.80E-06 | 2.41E-01 |
| 10 | 0.763 | 8.77E-06 | 1.92E-07 | -4.86E-05 | -0.00019 | -3.63E-04 | 1.75E-01 |
| 11 | 0.808 | 7.92E-06 | 4.08E-07 | -5.77E-05 | -0.00021 | -4.31E-04 | 1.32E-01 |
| 12 | 0.832 | -2.61E-05 | 1.07E-07 | -6.28E-05 | -0.00022 | -4.68E-04 | 1.10E-01 |
| 13 | 0.859 | 9.55E-06 | -9.51E-07 | -6.87E-05 | -0.00023 | -5.13E-04 | 8.39E-02 |
| 14 | 0.872 | 3.39E-05 | 1.42E-06 | -7.17E-05 | -0.00023 | -5.35E-04 | 7.02E-02 |
| 15 | 0.885 | -3.52E-05 | -2.10E-07 | -7.47E-05 | -0.00023 | -5.57E-04 | 5.65E-02 |
| 16 | 0.932 | 2.93E-06 | -3.15E-08 | -8.66E-05 | -0.00028 | -6.46E-04 | 1.23E-02 |
| 17 | 0.944 | 25.771 | 1.01E-08 | -9.00E-05 | -0.00029 | -6.72E-04 | 1.94E-03 |
| 18 | 0.963 | -4.16E-07 | -6.22E-09 | -9.58E-05 | -0.00031 | -7.15E-04 | -1.19E-02 |
| 19 | 0.982 | 2.39E-06 | -1.38E-08 | -0.0001 | -0.00033 | -7.61E-04 | -2.44E-02 |
| 20 | 1.006 | -1.21E-06 | 2.09E-08 | -0.00011 | -0.00035 | -8.23E-04 | -3.77E-02 |
| 21 | 1.073 | 4.81E-08 | -3.28E-09 | -0.00014 | -0.00039 | -1.01E-03 | -6.72E-02 |
| 22 | 1.529 | 1.85E-08 | 1.58E-09 | -0.00028 | -0.00014 | -2.09E-03 | -1.53E-02 |
| 23 | 1.663 | -2.61E-08 | 1.25E-08 | -0.00029 | -6.49E-06 | -2.16E-03 | 4.43E-03 |
| 24 | 1.676 | -3.44 | -1.84E-08 | -0.00029 | -5.96E-06 | -2.16E-03 | 4.74E-03 |
| 25 | 1.685 | -2.37E-07 | -3.38E-08 | -0.00029 | -5.60E-06 | -2.16E-03 | 4.98E-03 |
| 26 | 1.691 | -7.45277 | 3.45E-08 | -0.00029 | -5.49E-06 | -2.17E-03 | 5.13E-03 |
| 27 | 1.729 | 3.30E-08 | -3.53E-10 | -0.00029 | -1.78E-07 | -2.17E-03 | 6.03E-03 |
| 28 | 1.763 | 9.32 | 2.29E-09 | -0.00029 | 1.40E-06 | -2.17E-03 | 6.05E-03 |
| 29 | 1.777 | -1.08E-06 | 1.13E-08 | -0.00029 | 1.38E-06 | -2.17E-03 | 5.59E-03 |
| 30 | 1.781 | 5.24E-07 | 4.14E-09 | -0.00029 | 1.37E-06 | -2.17E-03 | 5.45E-03 |
| 31 | 1.791 | 26.3627 | -1.19E-08 | -0.00029 | 1.33E-06 | -2.17E-03 | 5.13E-03 |
| 32 | 1.83 | 3.17E-09 | 3.23E-10 | -0.00029 | 7.19E-09 | -2.17E-03 | 3.13E-03 |
| 33 | 1.86 | -10.77 | -7.46E-11 | -0.00029 | -5.54E-07 | -2.17E-03 | 9.30E-04 |
| 34 | 1.887 | 1.25E-08 | -1.35E-11 | -0.00029 | 1.02E-06 | -2.17E-03 | 3.04E-03 |
| 35 | 1.914 | 8.71621 | 1.31E-10 | -0.00029 | -1.74E-06 | -2.17E-03 | 5.13E-03 |
| 36 | 1.944 | -3.14E-09 | 6.64E-12 | -0.00029 | -3.91E-06 | -2.17E-03 | 2.97E-03 |
| 37 | 1.974 | -10.77 | 3.05E-11 | -0.00029 | 5.27E-07 | -2.17E-03 | 7.80E-04 |
| 38 | 2.001 | -4.82E-09 | 3.42E-11 | -0.00029 | 4.19E-06 | -2.17E-03 | 2.93E-03 |
| 39 | 2.028 | 10.7165 | -2.65E-13 | -0.00029 | 1.24E-06 | -2.17E-03 | 5.13E-03 |
| 40 | 2.058 | -1.49E-09 | -6.79E-12 | -0.00029 | -2.45E-06 | -2.17E-03 | 3.18E-03 |
| 41 | 2.088 | -10.77 | -1.82E-12 | -0.00029 | 4.05E-07 | -2.17E-03 | 1.16E-03 |
| 42 | 2.115 | -8.65E-10 | 1.09E-11 | -0.00029 | 2.58E-06 | -2.17E-03 | 3.29E-03 |
| 43 | 2.142 | 12.7782 | -6.47E-13 | -0.00029 | -1.93E-06 | -2.17E-03 | 5.13E-03 |
| 44 | 2.172 | 4.03E-11 | 1.11E-12 | -0.00029 | -5.99E-06 | -2.17E-03 | 1.76E-03 |
| 45 | 2.202 | -10.77 | 1.08E-12 | -0.00029 | -7.67E-07 | -2.17E-03 | -1.24E-03 |
| 46 | 2.229 | 3.30E-11 | 1.20E-12 | -0.00029 | 5.90E-06 | -2.17E-03 | 1.20E-03 |
| 47 | 2.256 | 3.99744 | 6.77E-13 | -0.00029 | 8.12E-06 | -2.17E-03 | 5.13E-03 |
| 48 | 2.286 | -1.18E-11 | -9.66E-15 | -0.00029 | 8.12E-06 | -2.16E-03 | 8.86E-03 |

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| **Model** | | | | | | | | |
| **Node No** | **Coord. X (m)** | **Fy (N)** | **Mz (Nm)** | **Uy (m)** | **Rz (rad)** |  | **Uy -**  **reverse Model** | **Model error** |
| 1 | 0 | -10.0003 | -4.34E-06 | -1.71E-04 | 0.000686 | -1.28E-03 | 8.24E-02 |
| 2 | 0.026 | -9.9998 | -6.46E-06 | -1.48E-04 | 0.000685 | -1.11E-03 | 4.73E-02 |
| 3 | 0.053 | -19.9999 | -1.11E-06 | -1.25E-04 | 0.00068 | -9.36E-04 | 1.45E-02 |
| 4 | 0.129 | -3.73E-05 | -5.24E-07 | -7.05E-05 | 0.000627 | -5.26E-04 | -7.58E-03 |
| 5 | 0.197 | 2.61E-05 | -9.94E-07 | -2.96E-05 | 0.000525 | -2.21E-04 | -9.59E-03 |
| 6 | 0.263 | 76.7907 | -6.71E-07 | 0 | 0.000381 | 0.00E+00 | 0.00E+00 |
| 7 | 0.286 | 3.51E-05 | -1.45E-07 | 7.93E-06 | 3.24E-04 | 5.92E-05 | 7.03E-04 |
| 8 | 0.4 | -0.0004 | -2.02E-06 | 3.03E-05 | 8.34E-05 | 2.26E-04 | 5.20E-03 |
| 9 | 0.411 | 0.000398 | -1.93E-06 | 3.10E-05 | 6.49E-05 | 2.32E-04 | 5.90E-03 |
| 10 | 0.763 | 4.86E-06 | 1.12E-07 | -2.48E-05 | -0.00032 | -1.86E-04 | -2.92E-03 |
| 11 | 0.808 | -9.60E-05 | -9.80E-07 | -3.91E-05 | -0.00034 | -2.92E-04 | -6.36E-03 |
| 12 | 0.832 | 1.36E-04 | -4.94E-07 | -4.74E-05 | -0.00035 | -3.54E-04 | -4.44E-03 |
| 13 | 0.859 | -1.37E-05 | 9.27E-07 | -5.71E-05 | -0.00036 | -4.27E-04 | -2.68E-03 |
| 14 | 0.872 | -1.35E-04 | -5.19E-07 | -6.04E-05 | -0.00037 | -4.51E-04 | -1.38E-02 |
| 15 | 0.885 | 1.09E-04 | -2.49E-07 | -6.38E-05 | -0.00037 | -4.76E-04 | -2.48E-02 |
| 16 | 0.932 | -3.77E-06 | 1.98E-07 | -8.45E-05 | -0.00039 | -6.31E-04 | -3.37E-03 |
| 17 | 0.944 | 17.1915 | -9.65E-08 | -9.00E-05 | -0.0004 | -6.72E-04 | 1.94E-03 |
| 18 | 0.963 | -3.21E-06 | -2.31E-07 | -9.84E-05 | -0.0004 | -7.35E-04 | 7.74E-03 |
| 19 | 0.982 | 1.23E-05 | 7.68E-09 | -0.00011 | -0.00041 | -7.99E-04 | 1.31E-02 |
| 20 | 1.006 | -3.12E-06 | -7.13E-08 | -0.00012 | -0.00041 | -8.78E-04 | 1.78E-02 |
| 21 | 1.073 | 1.20E-06 | -3.16E-08 | -0.00015 | -0.0004 | -1.11E-03 | 3.31E-02 |
| 22 | 1.529 | -9.77E-08 | 4.33E-10 | -0.00028 | -8.00E-05 | -2.12E-03 | 1.04E-02 |
| 23 | 1.663 | -6.57E-07 | -2.36E-08 | -0.00029 | -9.25E-06 | -2.16E-03 | 4.80E-03 |
| 24 | 1.676 | -3.44 | 2.88E-08 | -0.00029 | -6.94E-06 | -2.16E-03 | 5.01E-03 |
| 25 | 1.685 | -1.74E-06 | -9.68E-09 | -0.00029 | -5.56E-06 | -2.17E-03 | 5.12E-03 |
| 26 | 1.691 | 3.32607 | -3.80E-09 | -0.00029 | -4.93E-06 | -2.17E-03 | 5.13E-03 |
| 27 | 1.729 | 1.66E-08 | 5.67E-10 | -0.00029 | 1.30E-07 | -2.17E-03 | 5.84E-03 |
| 28 | 1.763 | 9.32 | -7.52E-10 | -0.00029 | 1.16E-06 | -2.17E-03 | 5.87E-03 |
| 29 | 1.777 | 1.17E-07 | -1.15E-08 | -0.00029 | 8.68E-07 | -2.17E-03 | 5.50E-03 |
| 30 | 1.781 | 3.51E-07 | 1.32E-08 | -0.00029 | 7.42E-07 | -2.17E-03 | 5.37E-03 |
| 31 | 1.791 | 13.3704 | -5.39E-09 | -0.00029 | 4.46E-07 | -2.17E-03 | 5.13E-03 |
| 32 | 1.83 | 8.20E-08 | -5.34E-10 | -0.00029 | -5.47E-07 | -2.17E-03 | 3.37E-03 |
| 33 | 1.86 | -10.77 | 1.22E-09 | -0.00029 | 4.60E-08 | -2.17E-03 | 9.30E-04 |
| 34 | 1.887 | -2.06E-08 | 9.55E-10 | -0.00029 | 5.61E-07 | -2.17E-03 | 3.11E-03 |
| 35 | 1.914 | 10.989 | 8.71E-10 | -0.00029 | 3.11E-08 | -2.17E-03 | 5.13E-03 |
| 36 | 1.944 | -8.08E-09 | 4.16E-11 | -0.00029 | -5.54E-07 | -2.17E-03 | 2.25E-03 |
| 37 | 1.974 | -10.77 | 1.83E-10 | -0.00029 | 2.73E-08 | -2.17E-03 | -4.00E-04 |
| 38 | 2.001 | 5.82E-09 | 3.47E-10 | -0.00029 | 5.73E-07 | -2.17E-03 | 2.31E-03 |
| 39 | 2.028 | 10.2329 | 1.06E-10 | -0.00029 | 1.15E-07 | -2.17E-03 | 5.13E-03 |
| 40 | 2.058 | -3.70E-09 | -4.85E-11 | -0.00029 | -4.30E-07 | -2.17E-03 | 2.94E-03 |
| 41 | 2.088 | -10.77 | -5.07E-12 | -0.00029 | 7.29E-08 | -2.17E-03 | 5.88E-04 |
| 42 | 2.115 | -6.33E-09 | 4.67E-11 | -0.00029 | 4.45E-07 | -2.17E-03 | 3.10E-03 |
| 43 | 2.142 | 12.8635 | -9.73E-12 | -0.00029 | -2.84E-07 | -2.17E-03 | 5.13E-03 |
| 44 | 2.172 | -1.39E-09 | -7.46E-12 | -0.00029 | -9.50E-07 | -2.17E-03 | 8.06E-04 |
| 45 | 2.202 | -10.77 | -2.75E-12 | -0.00029 | -1.01E-07 | -2.17E-03 | -3.03E-03 |
| 46 | 2.229 | -3.83E-10 | -1.36E-12 | -0.00029 | 9.83E-07 | -2.17E-03 | -6.72E-05 |
| 47 | 2.256 | 3.9931 | 4.92E-12 | -0.00029 | 1.34E-06 | -2.17E-03 | 5.13E-03 |
| 48 | 2.286 | -1.16E-10 | 2.21E-13 | -0.00029 | 1.34E-06 | -2.16E-03 | 1.04E-02 |