all object

|  |  |  |
| --- | --- | --- |
| -399.28 | -679.72 | 1090.96 |
| 109.7 | -642.35 | 1086.43 |
| 475.55 | -538.18 | 1090.5 |
| 517.62 | -194.43 | 1090.65 |
| -466.39 | -542.31 | 1091.55 |
| 42.73 | -412.19 | 1090.82 |
| 321.09 | -667.45 | 1083.49 |
| 527.78 | -375.72 | 1092.0 |

all model

|  |  |  |
| --- | --- | --- |
| -9.5975 | 96.3215 | -153.4711 |
| -2.3859 | -5.9182 | -151.6286 |
| 18.3766 | -79.3583 | -148.7698 |
| 87.3915 | -88.0704 | -148.2892 |
| 18.1762 | 109.7568 | -153.585 |
| 43.8954 | 7.3577 | -150.9432 |
| -7.5452 | -48.379 | -151.1187 |
| 50.9073 | -90.0254 | -148.1656 |

Lab input model

|  |  |  |
| --- | --- | --- |
| 18.3766 | -79.3583 | -148.7698 |
| 87.3915 | -88.0704 | -148.2892 |
| 18.1762 | 109.7568 | -153.585 |

Lab input object

|  |  |  |
| --- | --- | --- |
| 475.55 | -538.18 | 1090.5 |
| 517.62 | -194.43 | 1090.65 |
| -466.39 | -542.31 | 1091.55 |

Lab Initial Parameters

|  |
| --- |
| 0.0 |
| 0.0 |
| 89.7828 |
| 4.9783 |
| 1433.7133 |
| 2042.3611 |
| -4339.1303 |

Lab Correlation Matrix

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 1.0 | -0.5355 | 0.0073 | 0.0 | -0.8734 | 0.5243 | -0.2555 |
| -0.5355 | 1.0 | -0.0061 | -0.0 | 0.474 | -0.9806 | 0.5935 |
| 0.0073 | -0.0061 | 1.0 | -0.0 | -0.1929 | 0.0345 | -0.0033 |
| 0.0 | -0.0 | -0.0 | 1.0 | 0.0707 | 0.0752 | 0.6741 |
| -0.8734 | 0.474 | -0.1929 | 0.0707 | 1.0 | -0.4641 | 0.2748 |
| 0.5243 | -0.9806 | 0.0345 | 0.0752 | -0.4641 | 1.0 | -0.5314 |
| -0.2555 | 0.5935 | -0.0033 | 0.6741 | 0.2748 | -0.5314 | 1.0 |

Lab Redundancy Numbers

|  |  |  |
| --- | --- | --- |
| 0.5197 | 0.5197 | 0.0 |
| 0.4231 | 0.4231 | 0.0 |
| 0.0572 | 0.0572 | 0.0 |

Lab Parameters

|  |
| --- |
| -1.3944 |
| -0.2478 |
| 89.8067 |
| -4.9786 |
| 98.795 |
| -627.6786 |
| 340.0459 |

Lab transformed model points

|  |  |  |
| --- | --- | --- |
| 475.4501 | -538.1624 | 1090.5001 |
| 517.7103 | -194.4154 | 1090.6499 |
| -466.3805 | -542.3423 | 1091.55 |

Lab residuals for transformed model points

|  |  |  |
| --- | --- | --- |
| -0.0999 | 0.0176 | 0.0001 |
| 0.0903 | 0.0146 | -0.0001 |
| 0.0095 | -0.0323 | -0.0 |
| 0.0666 | 0.0215 | 0.0001 |
| 0.0779 | 0.0229 | 0.0001 |

Lab left perspective center

|  |  |  |
| --- | --- | --- |
| 98.795 | -627.6786 | 340.0459 |

Lab right perspective center

|  |  |  |
| --- | --- | --- |
| 104.388 | -169.6551 | 348.4803 |

Lab relative orientation parameters

|  |  |  |
| --- | --- | --- |
| -0.9724 | 0.251 | -1.7526 |

Lab M\_i\_m\_left

|  |  |  |
| --- | --- | --- |
| 1.0000000000000000000000000000000000000000000000000 | 0 | 0 |
| 0 | 1.0000000000000000000000000000000000000000000000000 | 0 |
| 0 | 0 | 1.0000000000000000000000000000000000000000000000000 |

Lab M\_i\_m\_right

|  |  |  |
| --- | --- | --- |
| 0.9995 | -0.0307 | -0.0039 |
| 0.0306 | 0.9994 | -0.0171 |
| 0.0044 | 0.0170 | 0.9998 |

Lab M\_o\_m

|  |  |  |
| --- | --- | --- |
| 0.0034 | 0.9997 | -0.0243 |
| -1.0000000000000000000000000000000000000000000000000 | 0.0033 | -0.0044 |
| -0.0043 | 0.0243 | 0.9997 |

Lab M\_o\_m.T

|  |  |  |
| --- | --- | --- |
| 0.0034 | -1.0000000000000000000000000000000000000000000000000 | -0.0043 |
| 0.9997 | 0.0033 | 0.0243 |
| -0.0243 | -0.0044 | 0.9997 |

Lab M\_i\_o\_left

|  |  |  |
| --- | --- | --- |
| 0.0034 | -1.0000000000000000000000000000000000000000000000000 | -0.0043 |
| 0.9997 | 0.0033 | 0.0243 |
| -0.0243 | -0.0044 | 0.9997 |

Lab M\_i\_o\_right

|  |  |  |
| --- | --- | --- |
| -0.0272 | -0.9996 | -0.0089 |
| 0.9996 | -0.0272 | 0.0071 |
| -0.0073 | -0.0087 | 0.9999 |

Lab extracted angles

|  |  |  |
| --- | --- | --- |
| 0.2525 | -1.3936 | -89.8066 |
| 0.5003 | -0.4203 | -91.5574 |

check points in object

|  |  |  |
| --- | --- | --- |
| -399.0309 | -680.3942 | 1092.0127 |
| 109.9316 | -642.7871 | 1095.3842 |
| 43.1613 | -412.5739 | 1091.3612 |
| 321.413 | -667.7711 | 1097.8794 |
| 528.0684 | -376.0196 | 1089.4859 |

check points residuals

|  |  |  |
| --- | --- | --- |
| 0.2491 | -0.6742 | 1.0527 |
| 0.2316 | -0.4371 | 8.9542 |
| 0.4313 | -0.3839 | 0.5412 |
| 0.323 | -0.3211 | 14.3894 |
| 0.2884 | -0.2996 | -2.5141 |
| 0.3047 | 0.4232 | 5.4903 |
| 0.3128 | 0.444 | 7.6805 |

all tie

|  |  |  |
| --- | --- | --- |
| -9.9688 | 14.8164 | -156.2243 |
| 92.0658 | -4.0001 | -154.4931 |
| -10.5394 | -102.5484 | -155.0824 |
| 87.0929 | -88.3482 | -153.1153 |
| -9.4881 | 96.246 | -158.3431 |
| 84.9816 | 102.8444 | -157.5453 |

tie points in object

|  |  |  |
| --- | --- | --- |
| 6.3037 | -680.9772 | 1115.5821 |
| 98.4516 | -172.6479 | 1111.4428 |
| 590.5917 | -681.8836 | 1124.1054 |
| 518.5137 | -196.0033 | 1114.6972 |
| -399.2468 | -679.9552 | 1116.2727 |
| -433.5782 | -209.7221 | 1113.537 |

Test input model

|  |  |  |
| --- | --- | --- |
| 108.9302 | 92.5787 | -155.7696 |
| 19.5304 | 96.0258 | -156.4878 |
| 71.8751 | 4.9657 | -154.1035 |
| -0.9473 | -7.4078 | -154.806 |
| 9.638 | -96.5329 | -158.0535 |
| 100.4898 | -63.9177 | -154.9389 |

Test input object

|  |  |  |
| --- | --- | --- |
| 7350.27 | 4382.54 | 276.42 |
| 6717.22 | 4626.41 | 280.05 |
| 6869.09 | 3844.56 | 283.11 |
| 6316.06 | 3934.63 | 283.03 |
| 6172.84 | 3269.45 | 248.1 |
| 6905.26 | 3279.84 | 266.47 |

Test Initial Parameters

|  |
| --- |
| 0.0 |
| 0.0 |
| 18.8601 |
| 7.5826 |
| -52189.0757 |
| -12349.4368 |
| -1847.087 |

Test Correlation Matrix

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 1.0 | 0.1915 | 0.0207 | 0.0 | 0.0173 | 0.8157 | -0.0534 |
| 0.1915 | 1.0 | 0.0259 | -0.0 | -0.9239 | 0.5574 | -0.473 |
| 0.0207 | 0.0259 | 1.0 | -0.0 | 0.0122 | 0.2305 | -0.0117 |
| 0.0 | -0.0 | -0.0 | 1.0 | -0.1637 | 0.0412 | 0.7743 |
| 0.0173 | -0.9239 | 0.0122 | -0.1637 | 1.0 | -0.372 | 0.3177 |
| 0.8157 | 0.5574 | 0.2305 | 0.0412 | -0.372 | 1.0 | -0.2043 |
| -0.0534 | -0.473 | -0.0117 | 0.7743 | 0.3177 | -0.2043 | 1.0 |

Test Redundancy Numbers

|  |  |  |
| --- | --- | --- |
| 0.5744 | 0.5743 | 0.3863 |
| 0.6127 | 0.6127 | 0.4002 |
| 0.8235 | 0.8236 | 0.7968 |
| 0.7656 | 0.7655 | 0.5958 |
| 0.5545 | 0.5546 | 0.4261 |
| 0.6688 | 0.6688 | 0.3958 |

Test Parameters

|  |
| --- |
| -0.8241 |
| -0.7177 |
| 18.8911 |
| 7.5856 |
| 6349.5511 |
| 3964.6453 |
| 1458.1142 |

Test transformed model points

|  |  |  |
| --- | --- | --- |
| 7350.2557 | 4382.3354 | 276.4676 |
| 6717.111 | 4626.7169 | 279.8916 |
| 6869.1524 | 3844.4149 | 283.0665 |
| 6316.1039 | 3934.557 | 283.3083 |
| 6172.9073 | 3269.4483 | 247.9493 |
| 6905.2097 | 3279.9575 | 266.4966 |

Test residuals for transformed model points

|  |  |  |
| --- | --- | --- |
| -0.0143 | -0.2046 | 0.0476 |
| -0.109 | 0.3069 | -0.1584 |
| 0.0624 | -0.1451 | -0.0435 |
| 0.0439 | -0.073 | 0.2783 |
| 0.0673 | -0.0017 | -0.1507 |
| -0.0503 | 0.1175 | 0.0266 |
| 0.0579 | 0.1415 | 0.1175 |
| 0.0645 | 0.1714 | 0.1473 |

Test left perspective center

|  |  |  |
| --- | --- | --- |
| 6349.5511 | 3964.6453 | 1458.1142 |

Test right perspective center

|  |  |  |
| --- | --- | --- |
| 7022.3021 | 3774.6249 | 1466.3994 |

Test relative orientation parameters

|  |  |  |
| --- | --- | --- |
| 0.4392 | 1.508 | 3.1575 |

Test M\_i\_m\_left

|  |  |  |
| --- | --- | --- |
| 1.0000000000000000000000000000000000000000000000000 | 0 | 0 |
| 0 | 1.0000000000000000000000000000000000000000000000000 | 0 |
| 0 | 0 | 1.0000000000000000000000000000000000000000000000000 |

Test M\_i\_m\_right

|  |  |  |
| --- | --- | --- |
| 0.9981 | 0.0553 | -0.0259 |
| -0.0551 | 0.9984 | 0.0091 |
| 0.0263 | -0.0077 | 0.9996 |

Test M\_o\_m

|  |  |  |
| --- | --- | --- |
| 0.9461 | 0.3239 | 0.0072 |
| -0.3237 | 0.9460 | -0.0177 |
| -0.0125 | 0.0144 | 0.9998 |

Test M\_o\_m.T

|  |  |  |
| --- | --- | --- |
| 0.9461 | -0.3237 | -0.0125 |
| 0.3239 | 0.9460 | 0.0144 |
| 0.0072 | -0.0177 | 0.9998 |

Test M\_i\_o\_left

|  |  |  |
| --- | --- | --- |
| 0.9461 | -0.3237 | -0.0125 |
| 0.3239 | 0.9460 | 0.0144 |
| 0.0072 | -0.0177 | 0.9998 |

Test M\_i\_o\_right

|  |  |  |
| --- | --- | --- |
| 0.9620 | -0.2704 | -0.0376 |
| 0.2714 | 0.9622 | 0.0242 |
| 0.0296 | -0.0334 | 0.9990 |

Test extracted angles

|  |  |  |
| --- | --- | --- |
| 1.0121 | 0.4122 | -18.8999 |
| 1.9164 | 1.6965 | -15.7533 |