|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 段号 | 距离 | | Di=Li’-Li’’ | didi | 平均距离S(m) | Pididi=didi/Si | 各边实测距离中误差估值mDi |
| 往测Li’ | 返测Li’’ |
| D-1 | 155.802 | 155.822 | -20 | 400 | 155.8125 | 155.8125 | ±8.164 |
| 1-2 | 112.278 | 112.238 | 40 | 1600 | 112.2585 | 112.2585 | ±8.164 |
| 2-3 | 158.452 | 158.465 | -13 | 169 | 158.4585 | 158.4585 | ±8.164 |
| 3-4 | 90.849 | 90.823 | 26 | 676 | 90.8360 | 90.8360 | ±8.164 |
| 4-5 | 262.853 | 262.842 | 11 | 121 | 262.8475 | 262.8475 | ±8.164 |
| 5-6 | 150.568 | 150.556 | 12 | 144 | 150.5620 | 150.5620 | ±8.164 |
| 6-7 | 91.464 | 91.453 | 11 | 121 | 91.4585 | 91.4585 | ±8.164 |
| 7-8 | 143.676 | 143.648 | 28 | 784 | 143.5620 | 143.5620 | ±8.164 |
| 8-9 | 66.215 | 66.197 | 18 | 324 | 66.2060 | 66.2060 | ±8.164 |
| 9-E | 101.098 | 101.088 | 10 | 100 | 101.0930 | 101.0930 | ±8.164 |
| ∑ |  |  |  |  | 1333.095 | 1333.095 | ±8.164 |
| 计算 | ∑Pididi=2343.4825 单位权中误差μ=±7.8531mm | | | | | | |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 段号 | 距离 | | Di=Li’-Li’’ | didi | 平均距离S(m) | Pididi=didi/Si | 各边实测距离中误差估值mDi |
| 往测Li’ | 返测Li’’ |
| D-1 | 155.802 | 155.822 | -20 | 400 | 155.8125 | 155.8125 | ±8.082 |
| 1-2 | 112.278 | 112.238 | 40 | 1600 | 112.2585 | 112.2585 | ±8.082 |
| 2-3 | 158.452 | 158.465 | -13 | 169 | 158.4585 | 158.4585 | ±8.082 |
| 3-10 | 152.250 | 152.238 | 12 | 144 | 152.241 | 152.241 | ±8.082 |
| 10-11 | 91.945 | 91.934 | 11 | 121 | 91.940 | 91.940 | ±8.082 |
| 11-12 | 80.377 | 80.374 | 3 | 9 | 80.376 | 80.376 | ±8.082 |
| 12-13 | 144.907 | 144.930 | -23 | 529 | 144.919 | 144.919 | ±8.082 |
| 13-14 | 114.380 | 114.384 | -4 | 16 | 114.382 | 114.382 | ±8.082 |
| 14-15 | 85.319 | 85.299 | 20 | 400 | 85.308 | 85.308 | ±8.082 |
| 15-16 | 86.814 | 86.806 | 8 | 64 | 86.811 | 86.811 | ±8.082 |
| 16-E | 73.972 | 73.986 | -14 | 196 | 73.979 | 73.979 | ±8.082 |
| ∑ |  |  |  |  | 1436.917 | 1436.917 | ±8.082 |
| 计算 | ∑Pididi=2343.4825 单位权中误差μ=±7.8531mm | | | | | | |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 点名 | 观测角  （°′″） | 角度改正数  （″） | 改正后角值（°′″） | 方位角  （°′″） | 边长  （ｍ） | 角度闭合差= +4″    角度闭合差允许值  允=+-33″  测角中误差：  mβ=±2.0254″ |
| 224°10′26″ | 161.1800 |
| D | 192°35′45″ | 0″ | 192°35′45″ |
| 211°34′41″ | 155.8125 |
| 1 | 188°30′26″ | -1″ | 188°30′25″ |
| 203°04′16″ | 112.2585 |
| 2 | 188°35′58″ | -1″ | 188°35′57″ |
| 194°28′18″ | 158.4585 |
| 3 | 107°26′06″ | 0″ | 107°26′6″ |
| 267°02′12″ | 90.8360 |
| 4 | 78°34′17″ | 0″ | 78°34′17″ |
| 8°27′56″ | 262.8475 |
| 5 | 164°38′16″ | -1″ | 164°38′15″ |
| 23°49′40″ | 150.5620 |
| 6 | 175°28′0″ | -1″ | 175°27′59″ |
| 28°21′40″ | 91.4585 |
| 7 | 163°35′57″ | 0″ | 163°35′57″ |
| 44°45′44″ | 143.6620 |
| 8 | 144°56′19″ | 0″ | 144°56′19″ |
| 79°49′25″ | 66.2060 |
| 9 | 115°30′14″ | 0″ | 115°30′14″ |
| 144°19′11″ | 101.0930 |
| E | 100°08′46″ | 0″ | 100°08′46″ |
| ∑ | 1620°00′04″ | -4″ | 1620°00′00″ |  | 1494.3745 |  |

**2.3.1.3导线测量内业数据**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 点名 | 观测角  （°′″） | 角度改正数  （″） | 改正后角值（°′″） | 方位角  （°′″） | 边长  （ｍ） | 角度闭合差= 9″  角度闭合差允许值  允=+-35″  测角中误差：  mβ=±2.0254″ |
| 224°10′26″ | 161.18 |
| D | 167°24′15″ | -1″ | 167°24′14″ |
| 211°34′42″ | 155.813 |
| 1 | 171°29′34″ | -1″ | 171°29′33″ |
| 203°04′16″ | 112.259 |
| 2 | 171°24′2″ | -1″ | 171°24′1″ |
| 194°28′19″ | 158.459 |
| 3 | 98°49′50″ | 0″ | 98°49′50″ |
| 113°18′10″ | 152.241 |
| 10 | 96°51′40″ | 0″ | 96°51′40″ |
| 30°09′51″ | 91.940 |
| 11 | 179°50′6″ | -1″ | 179°50′5″ |
| 29°59′57″ | 80.376 |
| 12 | 200°01′44″ | -1″ | 200°01′43″ |
| 50°01′42″ | 144.919 |
| 13 | 149°24′43″ | -1″ | 149°24′42″ |
| 19°26′26″ | 114.382 |
| 14 | 156°34′34″ | -1″ | 156°34′33″ |
| 356°01′1″ | 85.308 |
| 15 | 155°49′42″ | -1″ | 155°49′41″ |
| 331°50′43″ | 86.811 |
| 16 | 164°34′05″ | -1″ | 164°34′4″ |
| 316°24′49″ | 73.979 |
| E | 87°45′36″ | 0″ | 87°45′36″ |
| ∑ | 1800°00′09″ | -9″ | 1800°00′00″ |  | 1598.097 |  |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 测段编号 | 测点 | 测站数或水准路线长度 | 实测高差（m） | 改正数(m) | 改正后高差(m) | 高程(m) | 备注 |
| 1 | E | 162.203 | -2.063715 | 0.000075 | -2.063640 | 391.73230 | 已知点名：E  已知点高程：391.73230  闭合差fh=-0.00070m  闭合差允许值  fh允=4.913mm |
| D | 389.66866 |
| 2 | D | 155.682 | -2.754195 | 0.000072 | -2.754123 |
| 1 | 386.91454 |
| 3 | 1 | 112.17 | -0.80484 | 0.000052 | -0.804788 |
| 2 | 386.10975 |
| 4 | 2 | 148.32 | -0.719975 | 0.000069 | -0.719906 |
| 3 | 385.38984 |
| 5 | 3 | 90.77 | -0.6193 | 0.000042 | -0.619258 |
| 4 | 384.77059 |
| 6 | 4 | 272.24 | 1.51848 | 0.000126 | 1.518606 |
| 5 | 386.28919 |
| 7 | 5 | 150.311 | 0.71616 | 0.000070 | 0.716230 |
| 6 | 387.00542 |
| 8 | 6 | 91.386 | 0.2708 | 0.000042 | 0.270842 |
| 7 | 387.27626 |
| 9 | 7 | 143.7 | 0.548425 | 0.000067 | 0.548492 |
| 8 | 38782476 |
| 10 | 8 | 81.08 | 4.290155 | 0.000038 | 4.290193 |
| 9 | 392.11495 |
| 11 | 9 | 100.94 | -0.382695 | 0.000047 | -0.382648 |
| E | 391.73230 |
| ∑ | | 1508.802 | -0.0007 | 0.0007 | 0 |  | Mw=±1.644mm |

水准测量成果整理表

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 测段编号 | 测点 | 测站数或水准路线长度 | 实测高差（m） | 改正数(m) | 改正后高差(m) | 高程(m) | 备注 |
| 1 | E | 162.203 | -2.063715 | -0.000450 | -2.064165 | 391.73230 | 已知点名：E  已知点高程：391.73230  闭合差fh=0.00391m  闭合差允许值  fh允=4.749mm |
| D | 389.66814 |
| 2 | D | 155.682 | -2.754195 | -0.000432 | -2.754627 |
| 1 | 386.91351 |
| 3 | 1 | 112.17 | -0.80484 | -0.000311 | -0.805151 |
| 2 | 386.10836 |
| 4 | 2 | 148.32 | -0.719975 | -0.000411 | -0.720386 |
| 3 | 385.38797 |
| 5 | 3 | 152.185 | 0.40493 | -0.000422 | 0.404508 |
| 10 | 385.79248 |
| 6 | 10 | 92.995 | 0.477005 | -0.000258 | 0.476747 |
| 11 | 386.26923 |
| 7 | 11 | 80.522 | 0.231045 | -0.000233 | 0.230822 |
| 12 | 386.50005 |
| 8 | 12 | 144.91 | 1.827765 | -0.000402 | 1.827363 |
| 13 | 388.32741 |
| 9 | 13 | 115.901 | 3.463135 | -0.000321 | 3.46814 |
| 14 | 391.79022 |
| 10 | 14 | 84.172 | 0.85428 | -0.000233 | 0.854047 |
| 15 | 392.64427 |
| 11 | 15 | 86.834 | 0.486025 | -0.000241 | -1.397791 |
| 16 | 391.24684 |
| 12 | 16 | 74.171 | -1.39755 | -0.000206 | 0.003704 |
| E | 391.73230 |
| ∑ | | 1410.065 | 0.00391 | -0.00391 | 0 |  | Mw=±1.644mm |