

## Residual times for the initial model - Model-0

| SOURCE<br>X | SOURCE<br>Z | RECEIVER<br>X | RECEIVER<br>Z | CALCULATED<br>TIME | OBSERVED<br>TIME | RESIDUAL<br>TIME |
|-------------|-------------|---------------|---------------|--------------------|------------------|------------------|
| m           | m           | m             | m             | s                  | s                | s                |
| -848.9      | 9.0         | -1130.5       | 395.0         | 0.3185             | 0.3155           | 0.0031           |
| -846.8      | 9.0         | -856.5        | 1183.8        | 0.6142             | 0.5882           | 0.0260           |
| -848.9      | 9.0         | -849.6        | 1187.7        | 0.6155             | 0.5898           | 0.0256           |
| -819.8      | 9.0         | -823.4        | 1202.3        | 0.6205             | 0.5953           | 0.0252           |
| -794.2      | 9.0         | -797.0        | 1216.6        | 0.6255             | 0.6007           | 0.0248           |
| -771.8      | 9.0         | -770.7        | 1231.0        | 0.6304             | 0.6062           | 0.0243           |
| -745.7      | 9.0         | -744.4        | 1245.4        | 0.6354             | 0.6107           | 0.0247           |
| -720.2      | 9.0         | -718.2        | 1259.9        | 0.6404             | 0.6160           | 0.0245           |
| -691.2      | 9.0         | -692.1        | 1274.6        | 0.6452             | 0.6213           | 0.0239           |
| -664.5      | 9.0         | -665.9        | 1289.3        | 0.6499             | 0.6264           | 0.0235           |
| -637.6      | 9.0         | -639.8        | 1304.0        | 0.6546             | 0.6316           | 0.0230           |
| -612.4      | 9.0         | -613.7        | 1318.8        | 0.6594             | 0.6362           | 0.0232           |
| -585.4      | 9.0         | -587.7        | 1333.7        | 0.6641             | 0.6415           | 0.0226           |
| -562.3      | 9.0         | -561.7        | 1348.7        | 0.6689             | 0.6469           | 0.0220           |
| -532.1      | 9.0         | -535.7        | 1363.5        | 0.6737             | 0.6525           | 0.0212           |
| -508.5      | 9.0         | -509.6        | 1378.3        | 0.6784             | 0.6580           | 0.0204           |
| -479.0      | 9.0         | -483.6        | 1393.3        | 0.6832             | 0.6632           | 0.0200           |
| -452.9      | 9.0         | -457.6        | 1408.3        | 0.6880             | 0.6685           | 0.0195           |
| -425.8      | 9.0         | -431.6        | 1423.2        | 0.6928             | 0.6739           | 0.0188           |
| -400.7      | 9.0         | -405.6        | 1438.2        | 0.6975             | 0.6790           | 0.0185           |
| -375.7      | 9.0         | -379.7        | 1453.2        | 0.7023             | 0.6845           | 0.0178           |
| -347.9      | 9.0         | -353.7        | 1468.3        | 0.7071             | 0.6903           | 0.0168           |
| -336.9      | 9.0         | -334.7        | 1479.3        | 0.7105             | 0.6945           | 0.0160           |
| 738.3       | 9.0         | 729.8         | 2100.0        | 0.8968             | 0.8977           | -0.0009          |
| 738.3       | 9.0         | 734.5         | 2102.8        | 0.8975             | 0.8984           | -0.0009          |
| 808.3       | 9.0         | 807.4         | 2145.5        | 0.9093             | 0.9103           | -0.0010          |
| 808.3       | 9.0         | 812.1         | 2148.3        | 0.9100             | 0.9111           | -0.0010          |
| 905.3       | 9.0         | 884.7         | 2191.5        | 0.9218             | 0.9247           | -0.0029          |
| 905.3       | 9.0         | 889.4         | 2194.4        | 0.9226             | 0.9254           | -0.0028          |
| 930.7       | 9.0         | 910.4         | 2207.0        | 0.9261             | 0.9283           | -0.0023          |
| 930.7       | 9.0         | 915.1         | 2209.9        | 0.9268             | 0.9290           | -0.0022          |
| 946.3       | 9.0         | 936.0         | 2222.6        | 0.9303             | 0.9322           | -0.0019          |
| 946.3       | 9.0         | 940.7         | 2225.5        | 0.9311             | 0.9329           | -0.0019          |
| 969.4       | 9.0         | 961.4         | 2238.3        | 0.9346             | 0.9369           | -0.0024          |
| 969.4       | 9.0         | 966.2         | 2241.3        | 0.9354             | 0.9379           | -0.0025          |
| 996.3       | 9.0         | 986.9         | 2254.3        | 0.9389             | 0.9420           | -0.0031          |
| 996.3       | 9.0         | 991.6         | 2257.2        | 0.9397             | 0.9430           | -0.0033          |
| 1021.6      | 9.0         | 1012.5        | 2270.0        | 0.9431             | 0.9473           | -0.0042          |
| 1021.6      | 9.0         | 1017.2        | 2272.9        | 0.9438             | 0.9483           | -0.0045          |
| 1045.0      | 9.0         | 1038.2        | 2285.5        | 0.9471             | 0.9527           | -0.0056          |
| 1045.0      | 9.0         | 1042.9        | 2288.3        | 0.9478             | 0.9537           | -0.0058          |
| 1070.0      | 9.0         | 1063.9        | 2300.8        | 0.9510             | 0.9576           | -0.0065          |
| 1070.0      | 9.0         | 1068.7        | 2303.6        | 0.9519             | 0.9583           | -0.0064          |
| 1094.8      | 9.0         | 1089.8        | 2315.9        | 0.9559             | 0.9610           | -0.0052          |
| 1094.8      | 9.0         | 1094.6        | 2318.7        | 0.9568             | 0.9616           | -0.0048          |
| 1119.5      | 9.0         | 1115.9        | 2330.8        | 0.9607             | 0.9636           | -0.0030          |
| 1119.5      | 9.0         | 1120.7        | 2333.5        | 0.9616             | 0.9641           | -0.0026          |

|        |     |        |        |        |        |         |
|--------|-----|--------|--------|--------|--------|---------|
| 1146.8 | 9.0 | 1142.0 | 2345.6 | 0.9655 | 0.9662 | -0.0007 |
| 1146.8 | 9.0 | 1146.7 | 2348.3 | 0.9664 | 0.9668 | -0.0004 |
| 1170.7 | 9.0 | 1168.0 | 2360.5 | 0.9703 | 0.9695 | 0.0008  |
| 1170.7 | 9.0 | 1172.7 | 2363.3 | 0.9712 | 0.9701 | 0.0011  |
| 1200.8 | 9.0 | 1194.1 | 2375.3 | 0.9751 | 0.9731 | 0.0020  |
| 1200.8 | 9.0 | 1198.9 | 2378.0 | 0.9760 | 0.9738 | 0.0023  |
| 1226.7 | 9.0 | 1220.2 | 2390.0 | 0.9798 | 0.9765 | 0.0033  |
| 1226.7 | 9.0 | 1225.0 | 2392.6 | 0.9806 | 0.9772 | 0.0035  |
| 1251.0 | 9.0 | 1246.2 | 2404.6 | 0.9844 | 0.9797 | 0.0047  |
| 1251.0 | 9.0 | 1251.1 | 2407.4 | 0.9853 | 0.9803 | 0.0050  |
| 1280.7 | 9.0 | 1272.3 | 2419.8 | 0.9892 | 0.9829 | 0.0063  |
| 1280.7 | 9.0 | 1277.0 | 2422.6 | 0.9901 | 0.9835 | 0.0067  |
| 1304.8 | 9.0 | 1297.3 | 2435.2 | 0.9941 | 0.9861 | 0.0080  |
| 1304.8 | 9.0 | 1302.4 | 2438.5 | 0.9952 | 0.9867 | 0.0085  |
| 1329.3 | 9.0 | 1323.0 | 2451.5 | 0.9993 | 0.9889 | 0.0104  |
| 1329.3 | 9.0 | 1327.7 | 2454.5 | 1.0002 | 0.9894 | 0.0108  |
| 1355.2 | 9.0 | 1348.2 | 2467.5 | 1.0043 | 0.9918 | 0.0125  |
| 1355.2 | 9.0 | 1352.8 | 2470.5 | 1.0052 | 0.9924 | 0.0129  |
| 1380.7 | 9.0 | 1373.5 | 2483.4 | 1.0092 | 0.9951 | 0.0141  |
| 1380.7 | 9.0 | 1378.1 | 2486.3 | 1.0102 | 0.9958 | 0.0144  |
| 1406.0 | 9.0 | 1398.8 | 2499.2 | 1.0141 | 0.9984 | 0.0157  |
| 1406.0 | 9.0 | 1403.5 | 2502.1 | 1.0151 | 0.9990 | 0.0160  |
| 1431.2 | 9.0 | 1424.0 | 2514.9 | 1.0190 | 1.0018 | 0.0173  |
| 1431.2 | 9.0 | 1428.8 | 2518.0 | 1.0200 | 1.0024 | 0.0176  |
| 1456.1 | 9.0 | 1449.5 | 2531.0 | 1.0241 | 1.0053 | 0.0187  |
| 1456.1 | 9.0 | 1454.1 | 2534.0 | 1.0250 | 1.0061 | 0.0189  |
| 1479.8 | 9.0 | 1474.9 | 2546.9 | 1.0291 | 1.0099 | 0.0192  |
| 1479.8 | 9.0 | 1479.6 | 2549.8 | 1.0300 | 1.0107 | 0.0193  |
| 1504.6 | 9.0 | 1500.5 | 2562.6 | 1.0341 | 1.0147 | 0.0194  |
| 1504.6 | 9.0 | 1505.2 | 2565.5 | 1.0351 | 1.0156 | 0.0195  |
| 1532.7 | 9.0 | 1525.9 | 2578.2 | 1.0392 | 1.0191 | 0.0201  |
| 1532.7 | 9.0 | 1530.7 | 2581.1 | 1.0402 | 1.0199 | 0.0203  |
| 1560.1 | 9.0 | 1551.6 | 2593.9 | 1.0442 | 1.0233 | 0.0209  |
| 1560.1 | 9.0 | 1556.3 | 2596.8 | 1.0452 | 1.0242 | 0.0211  |
| 1581.4 | 9.0 | 1577.2 | 2609.6 | 1.0493 | 1.0284 | 0.0210  |
| 1581.4 | 9.0 | 1581.9 | 2612.4 | 1.0503 | 1.0293 | 0.0210  |
| 1607.5 | 9.0 | 1602.9 | 2625.1 | 1.0543 | 1.0325 | 0.0218  |
| 1607.5 | 9.0 | 1607.6 | 2627.9 | 1.0553 | 1.0332 | 0.0221  |
| 1635.7 | 9.0 | 1628.6 | 2640.2 | 1.0592 | 1.0366 | 0.0225  |
| 1659.8 | 9.0 | 1654.7 | 2655.4 | 1.0641 | 1.0409 | 0.0231  |
| 1659.8 | 9.0 | 1659.4 | 2658.1 | 1.0650 | 1.0416 | 0.0234  |
| 1685.9 | 9.0 | 1680.6 | 2670.4 | 1.0689 | 1.0447 | 0.0242  |
| 1685.9 | 9.0 | 1685.4 | 2673.2 | 1.0699 | 1.0454 | 0.0244  |
| 1711.8 | 9.0 | 1706.6 | 2685.4 | 1.0738 | 1.0493 | 0.0245  |
| 1711.8 | 9.0 | 1711.4 | 2688.1 | 1.0747 | 1.0501 | 0.0246  |
| 1734.7 | 9.0 | 1732.7 | 2700.2 | 1.0786 | 1.0536 | 0.0250  |
| 1734.7 | 9.0 | 1737.5 | 2702.9 | 1.0795 | 1.0544 | 0.0252  |
| 1764.9 | 9.0 | 1758.9 | 2714.9 | 1.0833 | 1.0575 | 0.0259  |
| 1764.9 | 9.0 | 1763.7 | 2717.6 | 1.0843 | 1.0581 | 0.0261  |
| 1783.4 | 9.0 | 1785.1 | 2729.5 | 1.0882 | 1.0612 | 0.0270  |
| 1783.4 | 9.0 | 1789.9 | 2732.1 | 1.0891 | 1.0619 | 0.0273  |
| 1942.5 | 9.0 | 1811.3 | 2744.0 | 1.0927 | 1.0649 | 0.0278  |

|        |     |        |        |        |        |        |
|--------|-----|--------|--------|--------|--------|--------|
| 1942.5 | 9.0 | 1816.1 | 2746.7 | 1.0935 | 1.0655 | 0.0280 |
| 1967.4 | 9.0 | 1837.5 | 2758.7 | 1.0975 | 1.0690 | 0.0285 |
| 1967.4 | 9.0 | 1842.3 | 2761.4 | 1.0984 | 1.0698 | 0.0286 |