Table 1. First run of position, speed, and acceleration data relative to time

Coefficient of kinetic friction *μk* = 0

|  |  |  |  |
| --- | --- | --- | --- |
| Time, Seconds (s) | Distance, Meters (m) | Velocity, (m/s) | Acceleration, (m/s^2) |
| 0.016 | 0.015 | 0.908 | 0.060 |
| 0.033 | 0.030 | 0.908 | -0.030 |
| 0.049 | 0.045 | 0.907 | -0.090 |
| 0.066 | 0.060 | 0.904 | -0.240 |
| 0.082 | 0.075 | 0.901 | -0.110 |
| 0.099 | 0.090 | 0.900 | 0.030 |
| 0.116 | 0.105 | 0.901 | 0.040 |
| 0.132 | 0.120 | 0.900 | -0.190 |
| 0.149 | 0.135 | 0.898 | 0.020 |
| 0.166 | 0.150 | 0.894 | -0.470 |
| 0.182 | 0.165 | 0.891 | 0.040 |
| 0.199 | 0.180 | 0.891 | -0.060 |
| 0.216 | 0.195 | 0.889 | -0.070 |
| 0.233 | 0.210 | 0.887 | -0.240 |
| 0.250 | 0.225 | 0.884 | -0.120 |
| 0.267 | 0.240 | 0.883 | 0.050 |
| 0.284 | 0.255 | 0.884 | 0.050 |
| 0.301 | 0.270 | 0.883 | -0.170 |
| 0.318 | 0.285 | 0.881 | 0.000 |