|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Altitude = 5km** | **Spring** | **Summer** | **Autumn** | **Winter** |
| Mean rate of change, K / hour | 0.036 | 0.040 | 0.010 | 0.013 |
| Std Deviation (1 reading) | 0.265 | 0.219 | 0.304 | 0.372 |
| Std Error (10 readings) | 0.084 | 0.069 | 0.096 | 0.118 |
| St Error (100 readings) | 0.026 | 0.022 | 0.030 | 0.037 |
| **Altitude = 10km** | **Spring** | **Summer** | **Autumn** | **Winter** |
| Mean rate of change, K / hour | 0.011 | 0.027 | 0.023 | 0.000 |
| St Deviation (1 reading) | 0.305 | 0.280 | 0.337 | 0.368 |
| St Error (10 readings) | 0.097 | 0.088 | 0.107 | 0.116 |
| St Error (100 readings) | 0.031 | 0.028 | 0.034 | 0.037 |
| **Altitude = 15km** | **Spring** | **Summer** | **Autumn** | **Winter** |
| Mean rate of change, K / hour | 0.006 | -0.005 | 0.004 | -0.003 |
| Std Deviation (1 reading) | 0.182 | 0.191 | 0.215 | 0.235 |
| Std Error (10 readings) | 0.058 | 0.060 | 0.068 | 0.074 |
| Std Error (100 readings) | 0.018 | 0.019 | 0.021 | 0.023 |
| **Altitude = 20km** | **Spring** | **Summer** | **Autumn** | **Winter** |
| Mean rate of change, K / hour | 0.031 | -0.033 | 0.032 | 0.024 |
| Std Deviation (1 reading) | 0.199 | 0.175 | 0.202 | 0.270 |
| Std Error (10 readings) | 0.063 | 0.055 | 0.064 | 0.085 |
| Std Error (100 readings) | 0.020 | 0.017 | 0.020 | 0.027 |

Table 2a Lindenberg 1999 – 2008. Mean rate of change in temperature between launches at 13:00 and 19:00 hours, along with standard deviation of a single measurement and standard error with increased number of measurements for 4 seasons.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Altitude = 5km** | **Spring** | **Summer** | **Autumn** | **Winter** |
| Mean rate of change, K / hour | 0.047 | -0.038 | 0.017 | 0.047 |
| Std Deviation (1 reading) | 0.271 | 0.237 | 0.294 | 0.271 |
| Std Error (10 readings) | 0.086 | 0.075 | 0.093 | 0.086 |
| St Error (100 readings) | 0.027 | 0.024 | 0.029 | 0.027 |
| **Altitude = 10km** | **Spring** | **Summer** | **Autumn** | **Winter** |
| Mean rate of change, K / hour | 0.010 | 0.073 | -0.017 | -0.011 |
| St Deviation (1 reading) | 0.286 | 0.268 | 0.295 | 0.293 |
| St Error (10 readings) | 0.091 | 0.085 | 0.093 | 0.093 |
| St Error (100 readings) | 0.029 | 0.027 | 0.030 | 0.029 |
| **Altitude = 15km** | **Spring** | **Summer** | **Autumn** | **Winter** |
| Mean rate of change, K / hour | 0.020 | 0.035 | 0.011 | -0.038 |
| Std Deviation (1 reading) | 0.167 | 0.190 | 0.192 | 0.210 |
| Std Error (10 readings) | 0.053 | 0.060 | 0.061 | 0.066 |
| Std Error (100 readings) | 0.017 | 0.019 | 0.019 | 0.021 |
| **Altitude = 20km** | **Spring** | **Summer** | **Autumn** | **Winter** |
| Mean rate of change, K / hour | 0.020 | 0.023 | 0.009 | -0.024 |
| Std Deviation (1 reading) | 0.183 | 0.176 | 0.209 | 0.243 |
| Std Error (10 readings) | 0.058 | 0.056 | 0.066 | 0.077 |
| Std Error (100 readings) | 0.018 | 0.018 | 0.021 | 0.024 |

Table 2b Lindenberg 2009 – 2012. Mean rate of change in temperature between launches at 13:00 and 19:00 hours, along with standard deviation of a single measurement and standard error with increased number of measurements for 4 seasons.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Altitude = 5km** | **Spring** | **Summer** | **Autumn** | **Winter** |
| Mean rate of change, K / hour | 0.081 | 0.093 | 0.036 | 0.052 |
| Std Deviation (1 reading) | 0.316 | 0.326 | 0.285 | 0.425 |
| Std Error (10 readings) | 0.100 | 0.103 | 0.090 | 0.134 |
| St Error (100 readings) | 0.032 | 0.033 | 0.028 | 0.043 |
| **Altitude = 10km** | **Spring** | **Summer** | **Autumn** | **Winter** |
| Mean rate of change, K / hour | 0.044 | 0.073 | 0.033 | 0.010 |
| St Deviation (1 reading) | 0.297 | 0.319 | 0.254 | 0.369 |
| St Error (10 readings) | 0.094 | 0.101 | 0.080 | 0.117 |
| St Error (100 readings) | 0.030 | 0.032 | 0.025 | 0.037 |
| **Altitude = 15km** | **Spring** | **Summer** | **Autumn** | **Winter** |
| Mean rate of change, K / hour | -0.046 | 0.001 | -0.024 | -0.038 |
| Std Deviation (1 reading) | 0.261 | 0.326 | 0.257 | 0.290 |
| Std Error (10 readings) | 0.082 | 0.103 | 0.081 | 0.092 |
| Std Error (100 readings) | 0.026 | 0.033 | 0.026 | 0.029 |
| **Altitude = 20km** | **Spring** | **Summer** | **Autumn** | **Winter** |
| Mean rate of change, K / hour | -0.025 | -0.047 | -0.019 | -0.015 |
| Std Deviation (1 reading) | 0.260 | 0.284 | 0.245 | 0.281 |
| Std Error (10 readings) | 0.082 | 0.090 | 0.077 | 0.089 |
| Std Error (100 readings) | 0.026 | 0.028 | 0.024 | 0.028 |

Table 2c Southern Great Plains 2006 – 2012. Mean rate of change in temperature between launches at 13:00 and 19:00 hours, along with standard deviation of a single measurement and standard error with increased number of measurements for 4 seasons.