

Room A: Results

Re-entry of space objects under uncertainty
LTW 18/5/2020

Pelayo Peñarroya, Matteo Manzi, Emma Stevenson, Saul Cova

Statistical Moments - MC - Longitude

| | |
|--------------------|---|
| Mean | 12.600991200954208 (11.728512466017676, 13.428384498679446) |
| Standard Deviation | 6.151926530838312 (5.445630721220604, 6.915295587070431) |
| Skewness | 1.1225501051396063 |
| Kurtosis | 3.9996118935427503 |

Statistical Moments - MC - Latitude

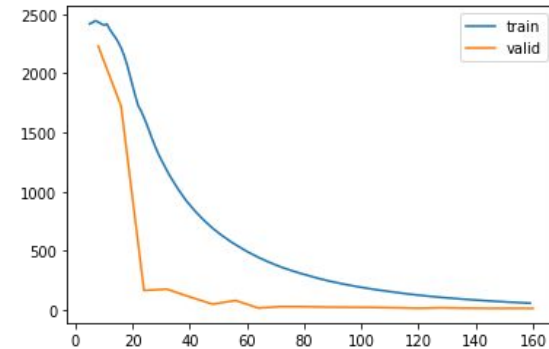
| | |
|--------------------|---|
| Mean | 49.105226041223794 (48.229480395285734, 49.98190400597762) |
| Standard Deviation | 6.224626557390092 (5.665015646745401, 6.839887004880882) |
| Skewness | 0.7965901206658668 |
| Kurtosis | 2.863546918575362 |

Statistical Moments - ML - Longitude

| | |
|--------------------|---|
| Mean | 11.965266227722168 (11.255563473701477, 12.656283259391785) |
| Standard Deviation | 5.086628437042236 (4.744225335121154, 5.464013469219208) |
| Skewness | 0.4718995184965514 |
| Kurtosis | 2.067338846811656 |

Statistical Moments - ML - Latitude

| | | |
|--------------------|---------------------|---|
| Mean | 46.91507339477539 | (46.11564178466797, 47.697355842590326) |
| Standard Deviation | 5.647927284240723 | (5.157721018791199, 6.180571436882019) |
| Skewness | 0.41150403253353357 | |
| Kurtosis | 2.671267329791721 | |

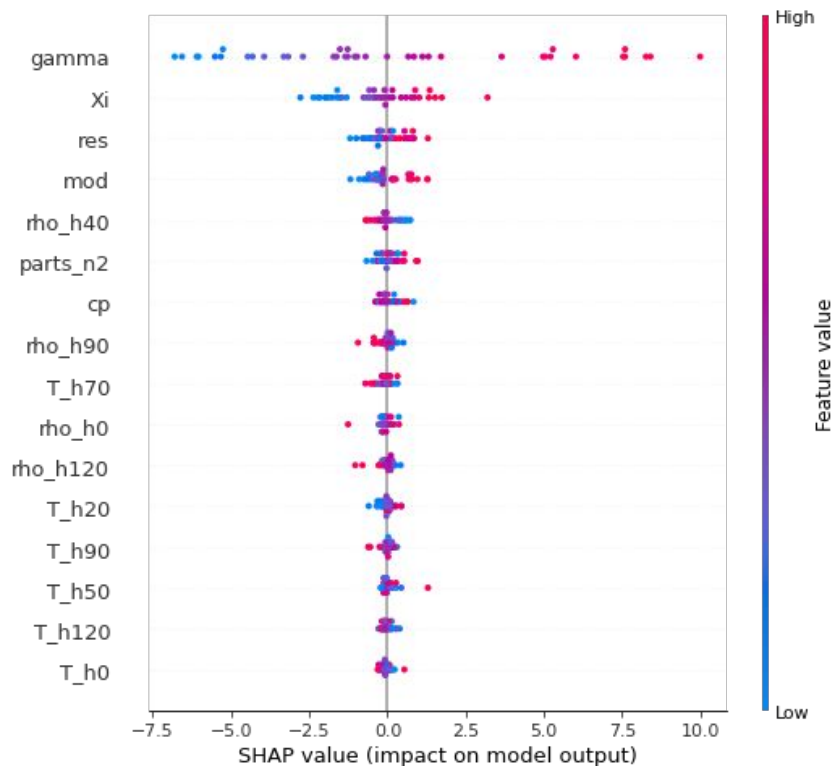


Sensitivity Analysis/Feature Importance - Longitude

200 Data Points

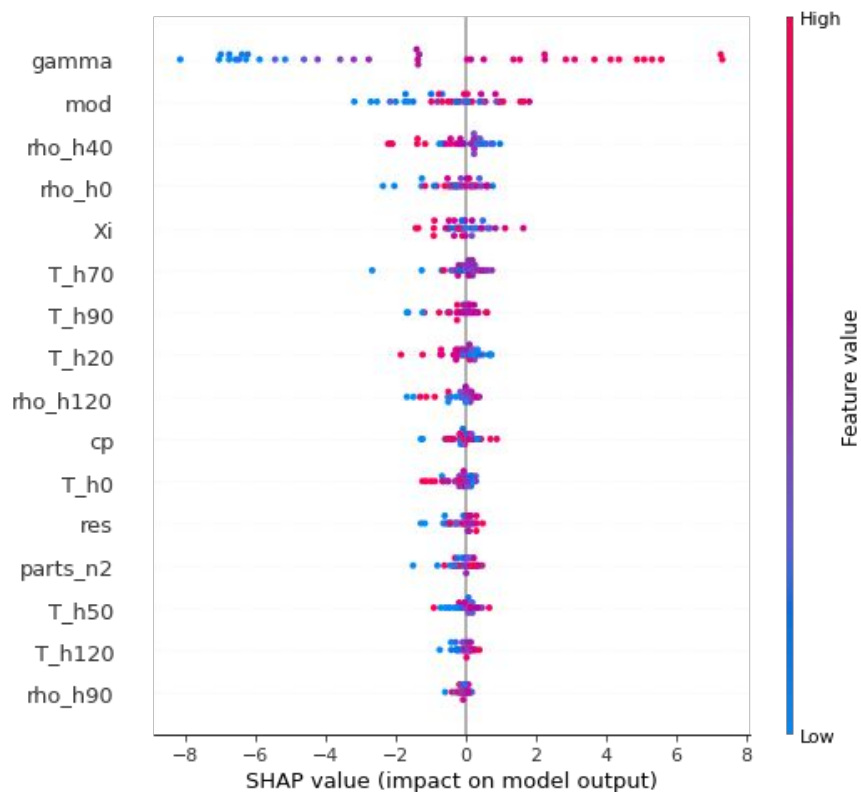
Flight path angle

Direction angle



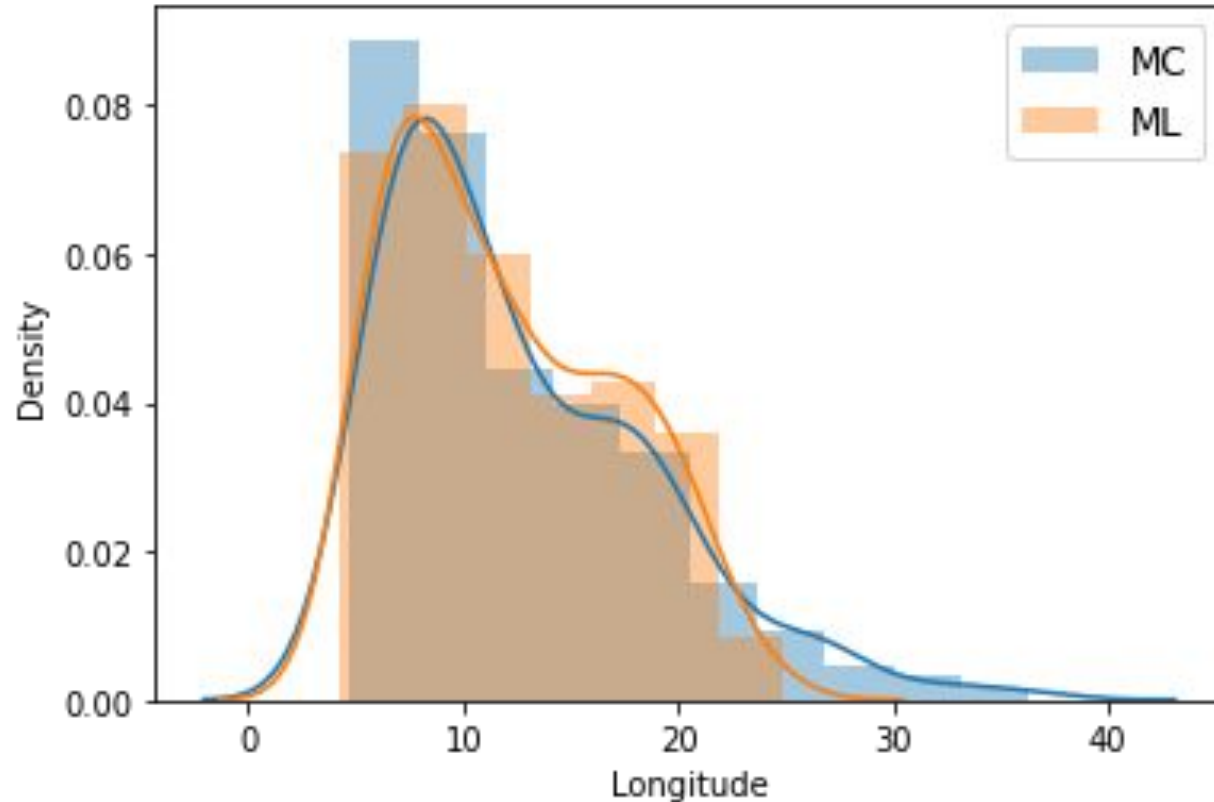
Sensitivity Analysis/Feature Importance - Latitude

200 Data Points



Histogram ML vs MC - Longitude

200 Data Points



Histogram ML vs MC - Latitude

200 Data Points

