|  |  |  |  |
| --- | --- | --- | --- |
|  | X-Position Error (%) | Y-Position Error (%) | Z-Position Error (%) |
| Mercury | 0.000004 | 0.056819 | 0.035003 |
| Venus | 0.003346 | 0.043815 | 0.399604 |
| Earth | 0.002289 | 0.004156 | 0.991716-Adjusted for screwy planes, still large. |
| Mars | 0.010069 | 0.465461 | 0.202019 |
| Jupiter | 0.021391 | 0.283073 | 0.392498 |
| Saturn | 1.231514 | 0.252652 | 2.738796 |
| Neptune | 0.585828 | 4.139647 | 1.528002 |
| Uranus | 0.177449 | 3.138473 | 3.098026 |

* DE405 Derivation/History
* Comparison of Models
  + Meeus = poly fit, no multibody
  + DE405 = numerical integration, long time steps breakdown, etc
* Comparison of results
  + Coordinate frame rotation, helio ecliptic to helio equatorial
  + Note about increasing error for outer planets
  + Note about Earth being shifted 2/3 of an AU above ecliptic plane in DE405, giving Earth an inclination of 41.81 degrees? WTF?!?! WHYYYYYYY!!!?!??!?