

# INPOP06, A NEW NUMERICAL EPHEMERIS

A. FIENGA<sup>1,2</sup>, H. MANCHE<sup>1</sup>, J. LASKAR<sup>1</sup>, M. GASTINEAU<sup>1</sup>

<sup>1</sup> IMCCE, Observatoire de Paris

77 avenue Denfert-Rochereau, 75014 Paris

<sup>2</sup> Observatoire de Besançon

41 bis av. de l'Observatoire, 25000 Besançon

e-mail: agnes@obs-besancon.fr

## ABSTRACT. <sup>1</sup>

INPOP06 is the new numerical planetary ephemerides developed at the IMCCE-Observatoire de Paris. INPOP (Intégrateur Numérique Planétaire de l'Observatoire de Paris) is a numerical integration of the motion of the nine planets and the Moon fitted to the most accurate available planetary observations. It also integrates the motion of 300 perturbing main belt asteroids, the rotation of the Earth and the Moon libration. We used more than 55000 observations including the last tracking data of the Mars Global Surveyor (MGS) and Mars Odyssey (Odyssey) missions. The accuracy obtained with INPOP06 is comparable to the accuracy of last versions of the JPL DE ephemerides (DE414, Standish 2003, JPL IOM, 312N, 03; Konopliv et al. 2006, Icarus, 182, 23) and of the EPM ephemerides (EPM2004, Pitjeva 2005, Sol. Syst. Res., 39, 176).

The reader should refer to the full paper (Fienga et al., 2008) for a detailed description of this new planetary ephemeris. The account of the ongoing effort on the fit of the INPOP ephemeris to lunar laser ranging data is provided in the companion paper (Manche et al., 2008) of the present volume.

## REFERENCES

- Fienga, A., Manche, H., Laskar, J., Gastineau, M., 2008, "INPOP06. A new planetary ephemeris", *A&A* 477, pp. 315–327
- Manche, H., Bouquillon, S., Fienga, A., Laskar, J., Francou, G., Gastineau, M., 2008, "Towards INPOP07, adjustment to LLR data", this Volume

---

<sup>1</sup>Presentation given by J. Laskar