Geophysical Research Abstracts, Vol. 8, 02132, 2006
SRef-ID: 1607-7962/gra/EGU06-A-02132

An alternative assessment of geophysical excitation in the vicinity of free core nutation

J. Vondrák, C. Ron

Astronomical Institute, Academy of Sciences of the Czech Republic (vondrak@ig.cas.cz)

In our previous work (Vondrák et al. A&A 2005) we found that a small additional geophysical excitation should exist, near to the retrograde Free Core Nutation frequency, to account for the observed celestial pole offsets at this frequency range. In order to estimate how well the observed geophysical excitation agrees with the celestial pole offsets, we use an alternative 'integration' approach. We integrate numerically Brzezinski's broad-band Liouville equations in celestial reference frame, using appropriately chosen initial conditions. Only the long-periodic part of geophysical excitation (in celestial frame) is used, and external torques exerted by the Moon, Sun and planets are neglected. The results are then compared with the observed celestial pole offsets measured by VLBI with respect to the IAU2000 model of precession-nutation.