Geophysical Research Abstracts
Vol. 17, EGU2015-14756, 2015
EGU General Assembly 2015

A new model of HF-EOP variation derived from 35 years of VLBI

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I present an empirical model of diurnal and semi-diurnal Earth Rotation ('HF-EOP') derived from 35 years of VLBI data, and compare the results against other models derived from Space Geodesy (SG) using GPS and/or VLBI, as well as results derived from various satellite altimetry tidal models ('tidal models'). The SGP models are customarily given in terms of discrete lines in the tidal potential while the altimetry derived models are given as an expansion in terms of 12 ortho-tides. The SGP models generally agree with other, as do the altimetry derived models with each other. However the two families of models have significant disagreement with each other. I demonstrate that expanding the number of terms in the ortho-tide expansion reduces but does not eliminate the disagreement. I also show that HF variation observed by VLBI cannot be adequately modeled in terms of ortho-tides and discuss some implications of this.