



Frequency dependence of the polar motion resonance

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The nutation of the Celestial Intermediate Pole can be considered as a retrograde diurnal polar motion. As the common polar motion, it presents a resonance, but with period and quality factor Q at discrepancy with the Chandler wobble (433 days, $Q \sim 80$): according to the nutation analysis (see Nurul Huda et al., EGU 2019), this period is about 380 days and the quality factor becomes -10 . In this study we aim at revisiting the geophysical interpretation of this result. It turns out that two factors account for the observed values in the diurnal band: the dynamical response of the oceans to the pole tide potential, and the strong perturbation of the solid Earth tides by the free core nutation. Our calculation is based upon the FES 2012 tidal ocean model, as well as the solid resonant body Love number of degree 2 in diurnal band, as published in IERS conventions.