

## 55.2: Nutation

Superimposed on the long-term (26,000-year) precession of the Earth's axis is a more complicated, shorter-term motion called the nutation. It is a complex motion composed of the superposition of several different harmonic motions, the largest of which has a period of about 18.6 years. It is generally perpendicular to the precessional direction, so that it is a kind of "nodding" up and down of the Earth's axis (see Figure 55.2.1).

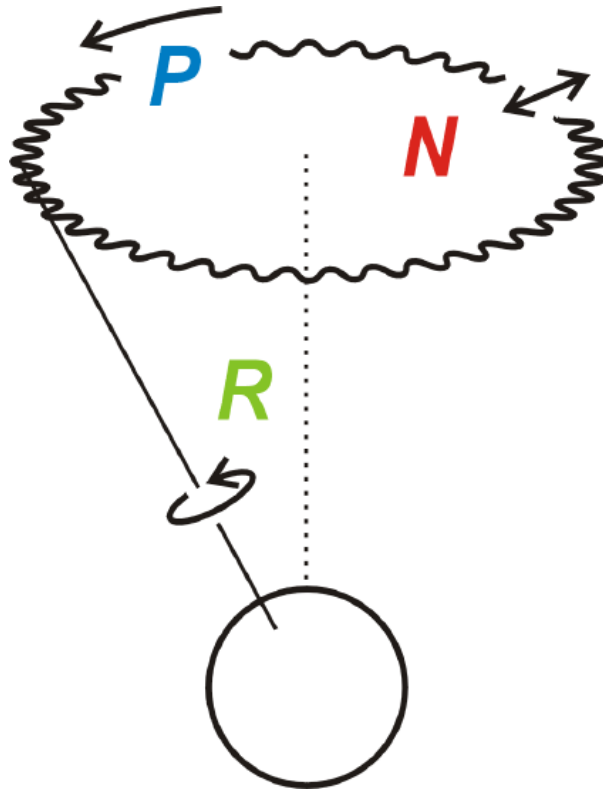


Figure 55.2.1: Precession ( $P$ ) and nutation ( $N$ ) of the Earth's rotation axis  $R$ . The nutation is a small "nodding" motion superimposed on the larger precessional motion. This figure shows the general shape of the nutation, with a period of about 18.6 years; the actual motion, when seen in detail, is more complex. (Credit: CGNUFDL, Wikimedia Commons.)

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