Banfi, Vittorio

Future dynamical evolution of the neptune-triton system. A new synthetic method of analysis. (English) Zbl 0562.70007

Earth Moon Planets 30, 43-52 (1984).

The author studies the dynamical evolution of the Neptune-Triton system by considering that the planet is an extended deformable body and a prolate spheroid due to the tidal action by Triton and by assuming that the motion of Triton is retrograde on circular orbit. The equations are solved by the principle that the energy dissipation due to the tidal effects must be minimum during a complete evolution period of the system, in other words, by the time when Triton will plunge into Neptune. The results are compared with those by *T. B. McCord* [Astron. J. 71, 585 ff. (1966)].

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Neptune-Triton system; extended deformable body; prolate spheroid; tidal action; circular orbit; energy dissipation

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