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Why are the earth spin and its axis 24hours, tilted by 23.5degree? SAHNGGI PARK, Electronics and Telecommunications Research Institute, 161 Kajong-Dong Yusong-Gu Taejon South Korea, 305-600 — The spins of planets have become a long subject of physics as well as the planetary science, and a lot of researches have been done mostly on the basis of the origin of the solar system, where the rotation rates of planets have been believed to be important clues to lead to the answer of question of planetary formations. Most studies reported in recent years discuss the rotation rate of a planet on the basically same kind of model where spin angular momentum was accreted from a disk of planetesimals at the early stage of planet formations. It is demonstrated that the earth spin is driven by a force induced from the gravitation and orbital motion of the earth-moon system, which leads the earth spin to be calculated from the fundamental quantities by almost an exact number, $23^h38^m58^s$ without any adjusting constants. It is also demonstrated that the earth spin axis which is tilted by 23.5deg. with respect to the earth orbit can be derived from the gravitation of the sun acting on the earth. The calculated number, 23.487deg., is astonishingly close to the observation. The spin of the sun is also obtained by the same way as the earth by reducing the many body system into a two body system. The calculation results in an approximated number which validates our theory, analysis, and calculations. A possible experiment to measure the force driving the earth spin is discussed.

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