



A new version of the origin of the moon

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Currently, a mainstream hypothesis about formation of the Moon is a so-called mega impact event. The mega impact model well explained all known facts about chemical composition and structure of the Moon. However, as shown in. (Terez EI, Gerasimov ME. Bull. Crimean Astrophysics. Obs. 2009. V.105. P. 129-134.), it is impossible to explain results of several new studies. For example, recent studies of the hydrodynamic modeling of mega impact have shown that a large portion (80%) of matter that formed the Moon should have origin from the colliding planet with the Earth and not from the Earth itself. By the way, nowadays, it is firmly established the isotopic identities of Moon's and Earth's matter. This is possible only if in the past the Earth had a planet-twin at the identical distance from the Sun with the identical history of the core-mantle separation which is absolutely unreal.

Following this discussion, the forgotten hypothesis by George H. Darwin (1913) would be resurrected again. G. Darwin calculated that if the Moon was an integral part of the Earth, the total momentum would result in a rotational period of less than four hours. Thus, duration of the solar tidal effects would be equal to two hours. The resonance effect was then considered that resulted in an increase of the tidal effect and separation of the matter which formed the Moon later. However, more recent studies have illustrated that this theory is not consistent. However, all the inconsistencies disappear if one assumes that the Moon was separated from the Earth as a result of internal thermonuclear explosion in the outer Earth's core providing expelled mass with initial acceleration. (Terez EI and Terez IE. Int. J. of Astron. and Astroph. 2013, V.3, P. 362-365.).

Biography

Edward I. Terez graduated from Leningrad Institute of Aviation Technology with M.S. in Radio Physics in 1963. He was awarded Ph.D. in Astrophysics in 1971 and a Full Professorship Title in 1989. He has been with the Crimean Astrophysical Observatory since 1963. From 1977 until 2003 he also chaired the Department of Astronomy at Simferopol State University (now Taurida National University). His research interests are atmospheric physics and origin of the internal Earth energy.