IS THERE 9-TH PLANET IN OUR SOLAR SYSTEM?
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Анотація

Brown and Batygin informed on indirect evidence of existence of the ninth planet in Solar System (SS). Some evidence pointing on its possible mass in 10 Earth’s mass; its distance from Sun at perihelion can be ~200AU, at aphelion 600-1200AU, and orbital period about 15000 years. Authors suggest that in early SS about 4.5 billion years ago, planet has been pushed out of the field of planets formation near the Sun. But all these conclusions are based on computer calculations of orbits of several known trans-Neptunian objects (TNOs), including Sedna, 2004VN112, 2012VP113, 2010GB174, 2007TG422, 2013RF98. We draw attention to the fact that these 6 TNOs found at perihelion, when their brilliance for terrestrial observers be maximal, and orbital speed was greatest. But just only after 50-100 years, they depart from this convenient location in space to open them. And then for thousands years, these objects will move in remote parts of their orbits. Our estimates show that the actual number of TNO with the same orbits as 6 taken into account in calculations objects should be several orders of magnitude greater. But for the moment they are invisible for terrestrial observer, because they are very far from perihelion point. Therefore, on the basis of purely probabilistic assumptions, it should be very large number of TNOs with very eccentric orbits. Then real results of calculation for the entire ensemble of existing remote objects is strikingly different from the primary. And therefore problem of ninth planet is still on the agenda. Most likely, it is necessary to raise the question of finding the many thousands of TNO on highly elongated orbits, and very far from terrestrial observer.

Ключові слова
Trans-Neptunian objects; Kuiper belt; 9-th planet

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