



On the origin of narrow planetary rings in collision of small moonlets

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The formation of some narrow planetary rings in small moonlets collisions is main idea of this work. In opposite of most popular point of view, that ring formed by the meteorite bombardment of close satellites, such model restrict the age of narrow rings and allows the relative simple verifications. There are few narrow eccentric planetary rings, bounded from both sides by two moonlets: Jovian ring - Metis - Adrastea and Saturn F-ring - Prometheus - Pandora. Some Uran rings epsilon-ring, Neptun ring arcs and Galathea. Resent Cassini mission discovery of Janus/Epimetheus ring confirms this idea. It is possible to expect comparatively fast orbital evolution in such system. Due to dust drag and interaction with ring satellites must drift away from initially common parent orbit. Simultaneously with this, mean size of ring particles decrease. In according with this model, the Jovian ring is oldest and the Janus/Epimetheus ring is youngest. The Neptunian Adams ring arcs are also young, and recently proved arcs disappearance confirms ring's rapid evolution. The famous Saturn F-ring has middle age. Of course, some dusty rings, for example Enceladus ring, can be formed by the meteorite bombardment. In spite of this fact, the supposed model may be interesting, because it gives an ability to estimate an age of some planetary rings (by two different ways).