

Formation of Uranian system via a giant impact

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Uranus has 5 regular satellites. The obliquity of Uranus is over 90°, which is anomalous in our solar system. A giant impact scenario would explain origins of these properties. In this study, we perform high-resolution SPH simulations ($N \sim 10^7$) for the formation of Uranian system via Giant Impact and show how much material is released around Uranus. In some cases, we find that solid materials are distributed in circum-Uranian orbits after a giant impact, which is massive enough to create satellites. We also find that the amount of materials that are distributed to the circum-Uranian orbit depends on the equation of state (EoS). We want to show results of high-resolution simulations using EoSs, SESAME and ANEOS.

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