

## Rapid growth of interstellar organic grains in the accretion disk of the solar nebula and the origin of asteroids

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We present the experimental results demonstrating that there were organic matter covered interstellar grains in the asteroid region and that the sticking threshold velocity of mm-size organic grains, 5 m/s, is several orders of magnitude higher than that of silicate and ice. This clearly shows that the formation of planetesimals occurred more rapidly in the asteroid region even in the turbulent accretion disk of the solar nebula than in the terrestrial and Jovian regions. Based on these results, we discuss the change of surface density of the solar nebula materials and the origin and evolution of asteroids. We propose that the change of the surface density could be observable using ALMA.