

New Horizons in the Kuiper Belt: The First Exploration of a Pristine Planetesimal

Following its successful flyby of the Pluto system in 2015, the New Horizons spacecraft has continued its journey deeper into the Kuiper Belt. In 2014, after a 4-year dedicated search for additional flyby targets, we found a small targetable Kuiper Belt Object (KBO), subsequently named Arrokoth. Arrokoth is a member of the cold classical population of KBOs, whose orbits have been undisturbed since the earliest history of the solar system. After the Pluto flyby we set a course for Arrokoth, and flew by it at a range of 3500 km on January 1st 2019. Imaging and spectroscopy obtained during the flyby revealed an object unlike any previously visited by spacecraft. Arrokoth is a smooth-surfaced contact binary, apparently a planetesimal formed by a low-speed merger of co-orbiting bodies. Its properties strongly support the model of planetesimal formation by local cloud collapse due to self-gravity.



Thursday, October 1st

4:00-5:00 p.m.

See website for Zoom information

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