

Astronomy and exploration of primitive solar system bodies

Initiative: Lichtenberg - Professuren

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Laufzeit: 5 Jahre

Projekt-Website: <https://www.tu-braunschweig.de/igep/forschung/sonnensystemastronomie>

The exploration of small solar system bodies is progressing due to several very successful spacecraft missions and to significant increase in facilities for their astronomical observation. Due to up-coming sky surveys (GAIA, LSST) and large telescopes (James-Webb, E-ELT), large and novel data sets will become available over the next decades. The professorship researches on the composition, structure and evolution of small bodies in the solar system and is situated between astronomy, space exploration and increasingly geosciences, working both with astronomical observations and with data from the Rosetta mission to comet 67P/Churyumov-Gerasimenko. Small bodies like asteroids, comets and Transneptunian objects (TNOs) are remnants from planet formation. TNOs and comet nuclei existed in an extremely cold (<40 K) environment beyond the orbit of Neptune and are therefore thought to be particularly similar to those of planetesimals (pre-planetary bodies). The water ice content of asteroids of different spectral types provides important constraints for models of the formation and orbital evolution of Jupiter and the outer planets.

Projektbeteiligte

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Probing the surface environment of large T-type asteroids

