PDF versions of previous colloquia and more information can be found in “events” at http://gcosmo.bao.ac.cn/

国台学术报告 NAOC COLLOQUIUM

2013 年 第 53 次 / Number 53, 2013

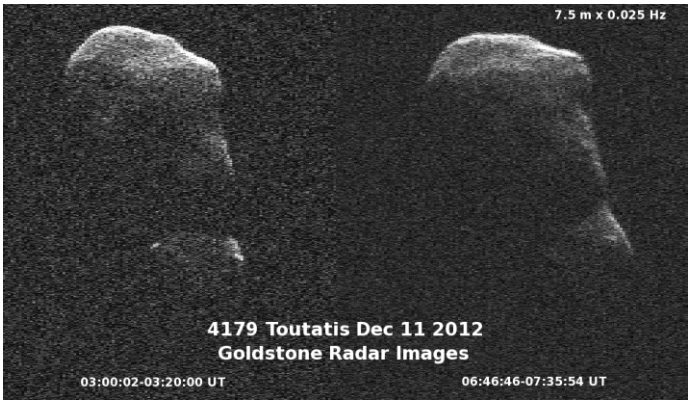
TIME: Tuesday, 2:30 PM, Sep. 24, 2013 LOCATION: A601 NAOC

Spin, Shape, and Interior of Near-Earth Asteroid 4179 Toutatis

Dr. Michael Busch (SETI Institute)

Dr. Michael Busch is a planetary astronomer specializing in radar and radio observations of near-Earth asteroids, particularly potential Earth impactors and targets for future space missions. After completely his PhD at Caltech in 2010, he did postdocs at UCLA and the National Radio Astronomy Observatory. He is now a research scientist at the SETI Institute.

Abstract



The contact binary near-Earth asteroid 4179 Toutatis has been observed with radar imaging from the Arecibo Observatory and from NASA's Goldstone Solar System Radar during each of its Earth flybys since 1992. In 2012, we observed Toutatis over a third-week period bracketing the Chang'e 2 flyby, with resolution as fine as 3.75 m. Toutatis is in a non-principal axis spin state, perturbed by gravitational tides from the Sun and from the Earth. We have modeled Toutatis' spin state from 1992 to 2012, fitting the asteroid's moments of inertia and constraining its internal density distribution. We are preparing an updated model of Toutatis' shape, based on all of the radar data and comparing to the Chang'e 2 optical images.

All are welcome! Tea, coffee, biscuits will be served at 2:15 P.M.

You are welcome to nominate speakers to Weimin Yuan (wmy@nao.cas.cn), Mei Zhang (zhangmei@bao.ac.cn), Licai Deng (licai@bao.ac.cn), Xuelei Chen (xuelei@cosmology.bao.ac.cn), Shude Mao (smao@nao.cas.cn)