

Scientists study surface composition of asteroid 2004 BL86 during close flyby of Earth

January 28 2015

Planetary Science Institute researchers Vishnu Reddy and Driss Takir studied the surface composition of near-Earth asteroid 2004 BL86 <u>during its close flyby of Earth</u> earlier this week.

Remotely operating the NASA Infrared Telescope Facility (NASA IRTF) on Mauna Kea, Hawai'i, Reddy and Takir studied infrared sunlight reflected off the asteroid to determine its composition. They were part of a team of astronomers from around the world studying this object.

"Our observations show that this asteroid has a spectrum similar to Vtype asteroids," said Reddy. "V-type asteroids are basalt, similar in composition to lava flows we see in Hawai'i. The principal source of Vtype asteroids is thought to be ancient basin-forming impacts on the south pole of the large, main-belt asteroid (4) Vesta. These impacts gave rise to the Vesta asteroid family spanning the inner part of the <u>main</u> <u>asteroid belt</u>, and some of those fragments in turn were transported to Earth-crossing orbits." Vesta was the first target of NASA Dawn mission.

Photometric and radar observations by other astronomers also showed that 2004 BL86 is a binary asteroid, a system where two asteroids orbit their common center of mass. 2004 BL86 is a 300-meter diameter asteroid that made a close <u>flyby</u> of the Earth on Monday morning at a



distance of 745,000 miles. It is the <u>closest flyby</u> of a large asteroid for the next 200 years.

Provided by Planetary Science Institute

Citation: Scientists study surface composition of asteroid 2004 BL86 during close flyby of Earth (2015, January 28) retrieved 3 May 2024 from <u>https://phys.org/news/2015-01-scientists-surface-composition-asteroid-bl86.html</u>

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