

Radar Clicks Asteroid's Pic

April 30 2010



Radar image of asteroid 2005 YU55. Image credit: NASA/Cornell/Arecibo

(PhysOrg.com) -- Near-Earth asteroid 2005 YU55 was "imaged" by the Arecibo Radar Telescope in Puerto Rico on April 19. Data collected during Arecibo's observation of 2005 YU55 allowed the Near-Earth Object Program Office at NASA's Jet Propulsion Laboratory to refine the space rock's orbit, allowing scientists to rule out any possibility of an Earth impact for the next 100 years.

The [space rock](#) was about 2.3 million kilometers (1.5 million miles) from Earth at the time this image of the radar echo was generated. The ghostly image has a resolution of 7.5 meters (25 feet) per pixel. It reveals 2005 YU55 as a spherical object about 400 meters (1,300 feet) in size.

Not only can the radar provide data on an asteroid's dimensions, but also on its exact location in space. Using Arecibo's high-precision radar astrometry capability, scientists were able to reduce orbit uncertainties for YU55 by 50 percent.

"At one time we had classified 2005 YU55 as a potential threat," said Steve Chesley, a scientist at JPL's Near-Earth Object Program Office. Prior to the Arecibo radar passes on April 19 thru 21, we had eliminated almost all upcoming Earth flybys as possibilities of impact. But there were a few that had a low remaining probability of impact. After incorporating the data from Arecibo, we were able to rule impacts out entirely for the next 100 years."

With more observations in the coming years, scientists may be able to accurately plot 2005 YU55's orbit even further out.

[NASA](#) detects, tracks and characterizes asteroids and comets passing close to [Earth](#) using both ground- and space-based telescopes. The Near-Earth Object Observations Program, commonly called "Spaceguard," discovers these objects, characterizes a subset of them, and plots their orbits to determine if any could be potentially hazardous to our planet.

Provided by JPL/NASA

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