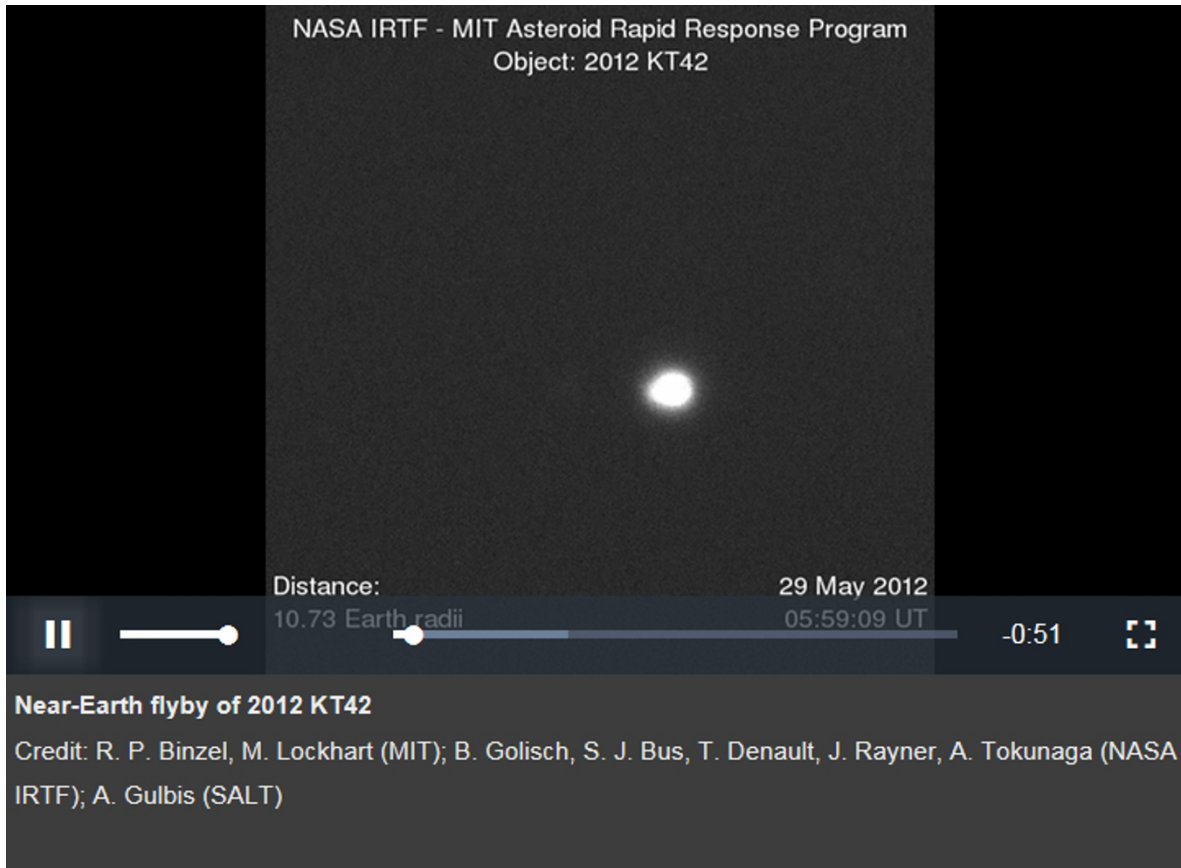


Astronomers catch video of near-miss asteroid

Sixth-closest near-Earth encounter tracked by telescope.

Eric Hand

20 June 2012



A small asteroid called 2012 KT42 came within three Earth radii of striking the planet on 29 May, but slipped past. The event was the [sixth-closest encounter](#) of any recorded asteroid.

In a video posted online on 19 June by researchers using NASA's Infrared Telescope Facility (IRTF) in Hawaii, the bright asteroid appears fixed, while background stars zip past (in fact, the asteroid is speeding along at 17 kilometres per second). "You get the view of riding along with it," says Richard Binzel, a planetary scientist at the Massachusetts Institute of Technology in Cambridge, who led the observations. At its closest, the asteroid was around 19,000 kilometres from Earth — a distance between the orbit of the International Space Station (about 1 Earth radius) and that of a geosynchronous satellite (about 6 Earth radii).

Hours after the object was discovered by a small telescope on Mount Lemmon near Tucson, Arizona, Binzel was able to obtain a few hours of time on the IRTF. The resulting in-depth study was innovative for such a small object.

By determining 2012 KT42's composition and reflectivity, Binzel was able to use the brightness of the asteroid to estimate its size: about 7 metres across. He says several objects this size cross Earth's path every year.

2012 KT42 is now continuing on its 1.5-year elliptical orbit of the Sun. Even if it had struck Earth, Binzel says, it probably would have burned up in the atmosphere. Binzel wants to discover an object that is not big enough to present a hazard to Earth, but is large enough to be spotted in space and later found on the ground as a meteorite, as was the asteroid 2008 TC₃, which came to Earth in Sudan in October 2008 (see the '[The rock that fell to Earth](#)'). "I want them to be just the right size to deliver some fresh samples," he says.

