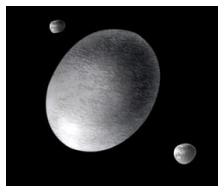


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By: Stefan Anitei, Science Editor



## [An Odd Dwarf Planet is Going to be the Brightest Comet Ever](#)

### *The rugby ball of the skies*

Astronomers believe that a strange dwarf planet in the Kuiper Belt, found in a region of the outer Solar System is going to become the brightest comet ever. 2003 EL61 is one of the biggest in the icy Belt, as large as Pluto along its longest dimension. The dense, rugby-ball shaped planet is made of rock with just a thin layer of ice on its surface (other Kuiper Belt Objects (KBOs) contain much more water-ice) and fast revolution rotation. The researchers think that the object could have a close encounter with the planet Neptune, whose gravity would expel it into the inner Solar System as a short-lived comet. "If you came back in two million years, EL61 could well be a comet," said Professor Michael Brown, from the California Institute of Technology (Caltech) in Pasadena. "When it becomes a comet, it will be the brightest we will ever see." This object is extremely odd, due to its elongated shape, caused by the spinning on its axis every four hours. Computer simulations predict the object has a very unstable orbit and is set for a close encounter with Neptune. The Neptune's gravitational force could either attract EL61 into the inner Solar System as a comet, out into the distant Oort Cloud region, or even into interstellar space. Other Kuiper Belt Objects tend to be highly stable, but the region where EL61 is situated might be a source for short-lived comets. The Caltech team believes that about 4.5 billion years ago, 2003 EL61 was a ball, half composed of ice and half of rock, the same composition and mass as Pluto, but at a given moment, it was hit by another large KBO on a edge. The collision broke off much of 2003 EL61's icy mantle, and the lost material formed several satellites, composed, of course, of very pure ice. It's possible that some of 2003 EL61's mantle material entered into the Solar System as comets. The oblique collision may have also provoked 2003 EL61 to spin rapidly, with the effect of shaping the elongated current rugby-ball design. "It's a bit like the story of Mercury," Professor Brown explained. "Mercury got hit by a large object early in the Solar System. It left mostly a big iron core, with a little bit of rock on the outside. This is mostly a rock core with a little bit of ice on the outside."