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Is Pluto a planet? Paul Withers says yes and no

By Brian Fitzgerald

What is a planet? The definition has been debated among planetary scientists for more than two centuries.

At present, two working groups of the [International Astronomical Union \(IAU\)](#) are wrestling with this question. [Paul Withers](#), a research associate at the GRS Center for Space Physics, addresses the problem in the September 6 issue of the weekly geophysics newspaper Eos.



Paul Withers. Photo by Vernon Doucette

The need for criteria for what constitutes a planet was made even more relevant in July, when NASA-funded scientists discovered a 10th planet in our solar system. Named [2003UB313](#), the heavenly body is a member of the Kuiper Belt, a large ring of objects beyond the orbit of Neptune. Bigger than Pluto, it's the farthest-known object in the solar system.

Is Pluto a planet? It was deemed one when spotted by astronomers in 1930. Withers writes that a planet should satisfy four criteria:

- 1) Its mass is small enough that it is not a star, but is large enough that its shape is determined by gravity rather than strength.
- 2) It does not have sufficient kinetic energy to escape from orbit around one or more stars.
- 3) It is not a satellite of a more massive object.
- 4) It is not part of a belt of objects of similar size.

"Pluto does not satisfy these criteria," writes Withers, especially because Pluto is practically indistinguishable from Kuiper Belt objects. But he poses another question: Should schoolchildren be told to disregard Pluto as a planet and redefine it as an asteroid? After all, he adds, "the word 'planet' does not belong exclusively to planetary scientists; our definition should not lightly contradict common usage."

"Accordingly," he continues, "I add a short caveat to these four criteria: Pluto is a planet. Perhaps future generations of schoolchildren, after learning about diverse populations of objects in the Kuiper Belt and in orbit around other stars, will find it strange that Pluto receives this special treatment. When that time comes, the need for this caveat can be reevaluated."

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