

Many Planetary Scientists and Astronomers Oppose New Planet Definition

On August 24th, a session of the International Astronomical Union (IAU), meeting in Prague, passed a resolution re-defining the planets of our solar system. Only about 428 of the IAU's nearly 10,000 members were involved in this vote. A proposal crafted over the previous year by the IAU Planet Definition Committee would have expanded the number of objects designated planets in the solar system to 12, with the potential for additions in the future. At the conference, however, this was modified over the course of several days to define the term with the intent of excluding all but the eight largest planets. Neither definition was subject to critical review by the broader planetary science community prior to the conference, despite simple means to do so in modern times.

Just after the August 24th vote, serious technical and pedagogical flaws were pointed out in the IAU's definition of planets. As a consequence of these flaws, a grass roots petition stating,

“We, as planetary scientists and astronomers, do not agree with the IAU's definition of a planet, nor will we use it. A better definition is needed”

was placed on the web at <http://www.ipetitions.com/petition/planetprotest> and circulated by email to a small fraction of the world's astronomical research community.

In less than five days, the petition was signed by 300 professional planetary scientists and astronomers. The list of signatories includes researchers who have studied every kind of planet in the solar system, as well as asteroids, comets, the Kuiper Belt, and planet interactions with space environment. They have been involved in the robotic exploration of the solar system from some of the earliest missions to Cassini/Huygens, the missions to Mars, ongoing missions to the innermost and outermost reaches of our solar system, and are leading missions preparing to be launched. The list includes prominent experts in the field of planet formation and evolution, planetary atmospheres, planetary surfaces and interiors, and includes international prize winning researchers.

“This petition gives substantial weight to argument that the IAU definition of planet does not meet fundamental scientific standards and should be set aside,” states petition organizer Dr. Mark Sykes, director of the Planetary Science Institute in Tucson, Arizona. “A more open process, involving a broader cross section of the community engaged in planetary studies of our own solar system and others should be undertaken.”

“I believe more planetary experts signed the petition than were involved in the vote on the IAU's petition. From the number of signatories that the petition received in a few days, it's clear that there is significant unhappiness among scientists with the IAU's planet definition, and that it will not be universally adopted by scientists and text book writers. To achieve a good planet definition that achieves scientific consensus will require more work.” added co-sponsor Dr. Alan Stern, Executive Director of the Space Science and Engineering Division of the Southwest Research Institute.

The list of signatories to the petition protesting the IAU Planet definition can be found at <http://www.ipetitions.com/petition/planetprotest>. For more information contact Sykes at 520-622-6300 or sykes@psi.edu, or Stern at 303-546-9670 or astern@swri.edu.