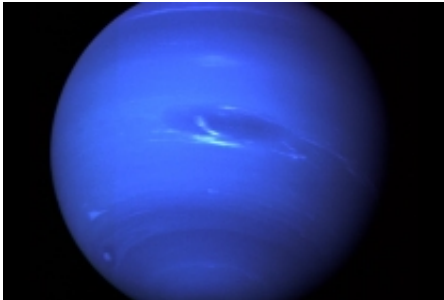


Planet Neptune not guilty of harassment

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New research by a University of Victoria PhD student is challenging popular theory about how part of our solar system formed. At today's meeting of the prestigious Division of Planetary Sciences in Pasadena, California, Alex Parker is presenting evidence that, contrary to popular belief, the planet Neptune can't have knocked a collection of planetoids known as the Cold Classical Kuiper Belt to its current location at the edge of the solar system.

Parker and his thesis supervisor Dr. J.J. Kavelaars (Herzberg Institute of Astrophysics) studied binaries—systems of two objects that, like the Earth and the moon, travel around the sun while orbiting around each other. Binaries are very common in the Kuiper Belt.

Using computer simulations, the researchers determined that binary systems in part of the Belt would have been destroyed by any interaction

with the giant planet.

"They would not be there today if the members of this part of the Kuiper Belt were ever hassled by [Neptune](#) in the past," says Parker. "It suggests that this region formed near its present location and remained undisturbed over the age of the [solar system](#)."

The Kuiper Belt is of special interest to astrophysicists because it is a fossil remnant of the primordial debris that formed the planets, says Parker. "Understanding the structure and history of the [Kuiper Belt](#) helps us better understand how the planets in our solar system formed, and how planets around other stars may be forming today."

The research will be published in an upcoming edition of *Astrophysical Journal Letters*.

More information: A preprint is available online at [arXiv.org](#)

Provided by University of Victoria

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