

## Deadly planets <sup>[1]</sup>

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### Calificación:



By Patrick L. Barry and Dr. Tony Phillips / Special for El Nuevo Día [endi.com](#) <sup>[2]</sup> At distance of approximately 900 light years, there is a rocky planet that is not much bigger than the planet we inhabit. It spins around its own star once every one hundred days, fast, but just a little bit, not so different from a standard terrestrial year. At least two, and possibly three, additional planets turn around the same star, forming a complete Solar System. Are you interested in visiting it? We hope not, because it would be the last trip of your life. The star is a pulsar (a star that emits radiation in regular periods), identified as “PSR 1257+12”. This pulsar is the extremely hot nucleus of a “supernova” that exploded millions of years ago. Their planets are not bathed in a smooth solar light, that promotes life, but in an ardent torrent of x-rays and high energy particles. “It would be like trying to live next to Chernobyl”, says to the Dr Charles Beichman, a scientist of the JPL and director of the Michelson Science Center in Caltech. Our own sun emits small amounts of x-rays and high energy particles similar to the pulsar, but the amount of radiation originating from the pulsar is several levels of greater magnitude. Even for a planet with an orbit as distant as the Earth, this radiation could not only eliminate the planetary atmosphere, but also it could vaporize the sand of its surface. Astronomer Dr Alex Wolszczan discovered planets around pulsar PSR 1257+12 in the decade of 1990 using the gigantic Arecibo Radiotelescope of Puerto Rico. At the beginning, nobody thought that worlds could form around a pulsar. It was too strange. People assumed that supernovas destroyed planets, instead of creating them. Where do these worlds come from? Perhaps the NASA Spitzer Space Telescope has found the answer.

Last year, a group of astronomers headed by the Dr Deepto Chakrabarty at MIT pointed the infrared telescope towards pulsar 4U 0142+61. The data revealed a disc of gas and dust that surrounded the central star, probably remainders of the supernova. It was exactly that type of disc that could agglutinate to form planets! In spite of being deadly, the planets of around the pulsar can be amazingly beautiful. The vaporized matter that rises from the surfaces of these planets can be ionized by the incoming radiation, creating colorful auroras through the sky. And although the pulsar would only appear as a very small point in the sky (the pulsar itself only has 20-40 km of diameter), it would be surrounded by a foggy brightness of light emitted by radiation particles as they are curved by the strong magnetic field of the pulsar. Is it a waste of beauty? Perhaps. Dr Beichman indicates a positive aspect: "It is a horrible place where forming planets is difficult, but if it can happen there, it can happen anywhere". You can find more news and images at Spitzer [3]. In addition, the Space Place website includes an episode of a program of animated interviews, that counts on Michelle Thaller's -a Spitzer scientist- participation. You can visit Space Place [4], a great place to show the children the infrared rays and the fascination of astronomy. This article was provided by the Jet Propulsion Laboratory, California Institute of Technology of, under contract with the National Administration of Space and Aeronautics.

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