



Spinning dust pancake gives birth to a brand new planet

Malcolm Holland
Science Reporter

IT is a baby photo like no other. A team of astronomers has captured, for the first time, an image of a newborn planet "in the act of formation" within a solar system.

Sydney University astronomer Peter Tuthill and his team overcame immense technical challenges to create the instruments needed.

Professor Tuthill yesterday

said beliefs in the way planets form can be traced to the 1700s but philosopher Immanuel Kant's theory had remained unproven — until now.

"[Kant] proposed that they grow within a vast spinning pancake of dust, which is left over from the formation of the sun or star," he said.

"Following a sort of snowball runaway effect, orbiting debris . . . is expected to clump up into ever larger pieces until one becomes massive enough

to draw in all the matter from the vicinity of its orbit."

At this point, the fledgling planet will have cleared a gap in the debris.

This newborn planet, or possibly a brown dwarf star, was seen as a tiny fleck of light orbiting on cue within a gap in the debris around a star known as T Chamaeleontis.

"You have got to work very hard to see that faint mote of light against the overwhelming glare when the telescope is

staring almost directly at a bright star," he said.

The information captured by powerful telescopes was used to create this CGI image.

Nuria Huelamo of Spain's Centro de Astrobiología, who was part of the international team, said the image was "a major milestone" in understanding how planets form.

"This could be the first time we have been able to witness a companion digging a gap inside its protoplanetary disc."



A first: The computer generated image Picture: Sydney University