

## Planets orbiting around Beta Pictoris formed the architecture of planetesimal belts?

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Mutual collisions between planetesimals orbiting around the A5 V star Beta Pictoris maintain its debris dust disk seen nearly edge-on from the Earth. Planetesimals might be trapped in resonances with a yet unseen planet as a number of trans-neptunian objects in the Kuiper Belt are in mean motion resonances (MMRs) with Neptune. Resonant structures of planetesimal belts, if exist, should be observable in the Beta Pictoris debris disk, because the location of dust in the Beta Pic debris system is confined near its parent-body planetesimals. Here we present near-infrared imaging observations of the Beta Pictoris debris disk that shows an architecture of planetesimal belts most likely formed by MMRs with a planet. If all the here and previously reported planetesimal belts are confirmed by future observations, it would imply that Beta Pictoris has giant planets with their spatial arrangements similar to those for the giant planets in the Solar System.