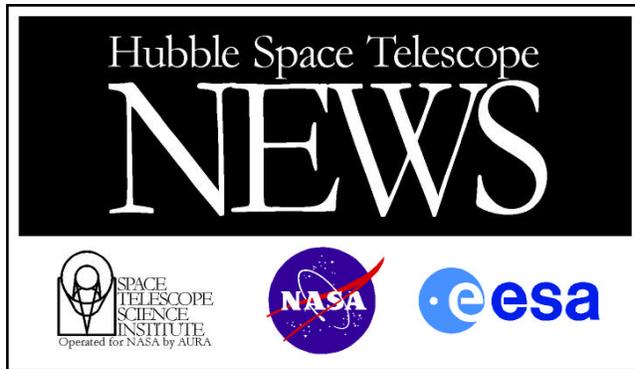


## Serendipitously Discovered Asteroids Hubble Space Telescope • WFPC2





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## Hubble: On The Asteroid Trail

Astronomers Karl Stapelfeldt and Robin Evans have tracked down about 100 small asteroids by hunting through more than 28,000 archival images taken by the Hubble Space Telescope's Wide Field and Planetary Camera 2. Here is a sample of what they have found: four archival images that show the curved trails left by asteroids.

[Top left]: Hubble captured a bright asteroid, with a visual magnitude of 18.7, roaming in the constellation Centaurus. Background stars are shown in white, while the asteroid trail is depicted in blue at top center. The trail has a length of 19 arc seconds. This asteroid has a diameter of one and one-quarter miles (2 kilometers), and was located 87 million miles from Earth and 156 million miles from the sun. Numerous orange and blue specks in this image and the following two images were created by cosmic rays, energetic subatomic particles that struck the camera's detector.

[Top right]: Here is an asteroid with a visual magnitude of 21.8 passing a galaxy in the constellation Leo. The trail is seen in two consecutive exposures, the first shown in blue and the second in red. This asteroid has a diameter of half a mile (0.8 kilometers), and was located 188 million miles from Earth and 233 million miles from the sun.

[Lower left]: This asteroid in the constellation Taurus has a visual magnitude of 23, and is one of the faintest seen so far in the Hubble archive. It moves from upper right to lower left in two consecutive exposures; the first trail is shown in blue and the second in red. Because of the asteroid's relatively straight trail, astronomers could not accurately determine its distance. The estimated diameter is half a mile (0.8 kilometers) at an Earth distance of 205 million miles and a sun distance of 298 million miles.

[Lower right]: This is a broken asteroid trail crossing the outer regions of galaxy NGC 4548 in Coma Berenices. Five trail segments (shown in white) were extracted from individual exposures and added to a cleaned color image of the galaxy. The asteroid enters the image at top center and moves down toward the lower left. Large gaps in the trail occur because the telescope is orbiting the Earth and cannot continuously observe the galaxy. This asteroid has a visual magnitude of 20.8, a diameter of one mile (1.6 kilometers), and was seen at a distance of 254 million miles from Earth and 292 million miles from the sun.

Credit: R. Evans and K. Stapelfeldt (Jet Propulsion Laboratory) and NASA

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