

Ask an Astronomer

Question: "How do you discover an asteroid?"

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For an astronomer, stars and galaxies are easy to find in the sky. They're always at the same latitude and longitude. Asteroids, though, move across the sky at different rates.

Asteroids are bits of rock left over from the formation of the solar system and many of them have experienced collisions. This means that their orbits are not as easy to predict as those of planets.

So the way we discover new ones is to observe a part of the sky for some time and to see what moves. We can do that by simply taking a series of images and lining them up so the background stars are in the same place, and then flipping through the images.

It's much easier to find asteroids in infrared light than in visible light because these objects are usually not very shiny. They don't reflect back very much sunlight.

But just like a dark, sunlit rock on the Earth, these objects glow in the infrared.

Asteroids are dark and warm against the background of space, so they shine brightly in infrared.

Astronomers often make a series of observations of a particular asteroid to determine its size and shininess. Once you've observed an asteroid a few times, you can figure out how far away it is. You can also predict where it's going as well as where it's been.

Learning all we can about asteroids adds to our understanding of the makeup of the solar system and how it got to be the way it is today.

For "Ask an Astronomer," I'm Bidushi Bhattacharya at NASA's Infrared Processing and Analysis Center.