

“Possible Seismic Activity on Asteroid 2012 DA14”

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Course Code: Astronomy: Issues in Solar Activity

Date:

In a recent article published by NASA Science News on February 14th, 2013, by Dr. Tony Phillips, seismic activity was found on an asteroid that was passing very close to earth. Richard Binzel, a professor of planetary science at MIT, studied the asteroid known as 2012 DA14. In order to detect this seismic activity, Binzel initially conceived that seismic activity affected only asteroids that passed close to earth, based on the fact they were not dark red like most other asteroids. Binzel determined that this was because seismic shifts occurred that shook up and overturned layers of dust on the asteroid as it passed through the earth's gravitational pull. To help explain this phenomenon Binzel developed a formula to express the force of the quakes in units of gravitational acceleration, what he calls "gees" whereby 1 g = the acceleration due to gravity on Earth's surface (Phillips, 2013).

Binzel found that when asteroids move through the earth's gravitational pull they experience seismic shifts that can shake and stretch these asteroids and even cause avalanches within craters of the asteroid. Binzel has found this phenomenon as significant because it offers researchers a chance to better understand how and why asteroids change when passing through the gravity of the earth. Binzel also hopes to use imaging techniques from various telescopes as 2012 DA14 passes by, in order to corroborate his findings and better understand their significance. Binzel ascertains that these findings offer new light and ways of understanding why asteroids passing near the earth were different in colour and how these changes takes place. His research suggests that while solar radiation causes asteroids to turn red in colour, those passing close to the earth experience seismic shifts and thus shake up this red surface dust to reveal a fresh grayish layer underneath.

Works Cited

Phillips, Tony. "Possible Seismic Activity on Asteroid 2012 DA14." *NASA Science News*. February 14th, 2013. Accessed online: http://science.nasa.gov/science-news/science-at-nasa/2013/14feb_asteroidquakes/