



# Abstract #831

English

## Asteroid Mineral Prospecting via Surface Gravimetric Surveying

Geophysical techniques are used in prospecting for natural resources on Earth. One such technique is ground gravity surveying, in which highly sensitive gravimeters are used to make measurements of the local gravity field strength at many locations on the ground in an area being surveyed. Variations in those measurements reflect variations in the density of the rock beneath the survey area, which in turn can provide indications of the local geology, from which potential locations of valuable ore-bodies may be inferred. The same principles hold true for other planetary bodies. Here we discuss the potential for using surface gravity surveying to characterise the internal density distribution of asteroids, and the potential value of that information in helping to identify locations on asteroids of higher prospectivity for valuable natural resources. An instrument being developed for this application by Gedex, the Vector Gravimeter for Asteroids (VEGA), will be described. VEGA is the first space gravimeter of sensitivity high enough to be useful in the asteroid prospecting application. Examples will be shown of the sort of measurement results that might be expected from an asteroid surface gravity survey.

French

No abstract title in French

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