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Small Body Science via Swarms of Nano-Satellites

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Imagine you had a fleet of nano-satellites deployed around an asteroid or comet, or directly on its surface. What things could you do with it that you could not do any other way?

Missions which transport a number of small spacecraft and deploy it near small bodes, moons or planets are becoming ever more feasible and realistic. While constellations of nano-satellites already carry a significant weight in terrestrial remote sensing, the potential of similar concepts for planetary science missions has not yet been extensively explored. There have been proposals for such scenarios for the past decades, though only now is there the technology to make them happen.

Multiple types of sensor networks can be deployed around planetary bodies or onto their surface while they can interact with each other if required. Furthermore, individual spacecraft become expendable.

We wish to call attention to all the research in this field which has been conducted so far and inspire the planetary science community to further investigate the possibles of such mission architechtures.