



The Asteroid Geophysical Explorer (AGEX); A proposal to explore Didymos system using Cubesats

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We present a novel concept for ESA's CubeSat Opportunity Payload Intersatellite Network Sensors (COPINS) planned to be deployed from the ESA AIM spacecraft at the Didymos System: the Asteroid Geophysical Explorer (AGEX). AGEX includes two 3-U CubeSats with geophysical packages that will land on the surface of Didymoon. These geophysical packages will work in synergy on the secondary's surface to fulfil a rich set of scientific and technological mission goals. This includes the measurement of mass during the ballistic descent, and determination of dynamical state, local gravity, geophysical surface properties and sub-surface structure following the landing. As a secondary objective, the assessment of the DART impact on the asteroid dynamical properties will be performed. AGEX will help AIM to meet its science and technology objectives, and will demonstrate the benefits of the deployment of a network of sensors while simultaneously developing technology of relevance to future ESA missions.