Geophysical Research Abstracts, Vol. 7, 09940, 2005 SRef-ID: 1607-7962/gra/EGU05-A-09940 © European Geosciences Union 2005



Science on the JIMO Vehicle

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The JIMO vehicle will revolutionize space science with unprecedented mass and power available for science. The mission is designed to obit the three icy moons of Jupiter: Callisto, Ganymede, and Europa for a minimum of 30- 60 days. The vehicle will have approximately 1500 kg of science payload available and at least 10 kW of electrical power. This enables high power payloads such as Ice Penetrating Radars, SARs, High Power Laser Experiments and Imaging Lidars. Additionally, the extensive power allows and unprecedented data rate up to 30 Mbps from Jupiter. This paper will focus on the design of the JIMO vehicle and how it maximizes the science potential of these missions. A conceptional design of the JIMO vehicle will be presented describing the entire system from the power source to the mission module, highlighting science features of the design.