



Mobile Asteroid Surface Scout (MASCOT) – An asteroid lander package for the Hayabusa-2 mission

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The Hayabusa-2 mission is currently being studied by JAXA/JSPEC as a sample return mission to the C-type near-Earth asteroid 1999JU3. Hayabusa-2, with launch planned for 2014, would be the immediate successor to the currently flying Hayabusa mission. Originally in the context of the proposed ESA Cosmic Vision M-class mission Marco Polo, but then following an invitation by JAXA/JSPEC, the Institute of Space Systems of the German Aerospace Center (DLR) led a proposal for a separate lander package 'Mascot' (Mobile Asteroid Surface Scout) to be carried on the mission.

A feasibility study was subsequently carried out that, upon consultation with the planetary science community, assessed different concepts for the lander that converged to a package with 3 kg of P/L, for a total mass of 10-15 kg. Presently, 'Mascot' enters the preliminary design phase while an Announcement of Opportunity for its payload complement is being prepared.

The presentation will outline the current baseline design, with special consideration of how the highly demanding constraints that are being imposed on the system due to the general mission scenario, the asteroid environment and the tight budgetary limitations are being fulfilled in such a rather modest design, still offering an excellent science potential.