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EUROPEAN SPACE AGENCY

SOLAR SYSTEM WORKING GROUP

Recommendation on the Swiss participation in the IBEX mission

At its 118th meeting held on 27th April 2005 at the Austria Centre, Vienna, the Solar System Working Group (SSWG) discussed the case for Swiss PRODEX support for the participation of the University of Bern (UB) in the NASA Interstellar Boundary Explorer (IBEX) mission.

IBEX is a small explorer mission (SMEX) to investigate the shape of the boundary of the heliosphere via neutral particle imaging. This final frontier of the solar system has never been explored before, and so the IBEX mission represents pioneering science. This termination region, comprising shock waves, the heliopause boundary, and deflections of the solar and interstellar winds, is also the site of the interaction of neutral interstellar ions with the solar system, as well as being believed to be the site of the acceleration of the anomalous component of cosmic rays.

The proposed UB hardware and calibration contribution is an instrument measuring low-energy neutrals. These are measurements of fundamental importance for IBEX since they represent a key diagnostic of the structure of the heliospheric boundary. The provision also underpins the UB's European and international reputation in this field of instrumentation, and so provides Europe with a highly visible role on the IBEX mission.

The SSWG unanimously endorses the proposed Swiss PRODEX contribution to the IBEX mission.