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The support to the SOLAR payload on COLUMBUS: an external payload in the frame of a manned mission.

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The solar package on the Columbus module of the ISS will be brought by the space shuttle in late 2007 and will be installed and commissioned in early 2008. This package is composed of three solar monitors designed by principal investigators from France, Switzerland and Germany with international participation. The scientific objective is to characterize the solar energy input to the earth system from the far UV to the infrared, and to determine its natural variations. B.USOC has been designated as the facility responsible centre (FRC) for this package during the entire mission.

This package will be the first set of ISS instruments designed to explicitly explore an aspect of the solar system, it will be the first scientific external remote sensing payload on the ISS. Its installation will require a transfer from the shuttle to the COLUMBUS module and various astronaut interventions. When in place and commissioned, the payload will be commanded in order to achieve its scientific objectives with a timeline which will integrate itself in the total ISS timeline including the experiments already in progress on the ISS as microgravity and life science research as well as station maintenance and crew sleep, meals and exercises.

This mode of operation is a realistic model of a scientific investigation programme on a planetary exploration mission. The emphasis will be put on the use of crew and operation centre personnel to optimise the scientific objective.