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## **SOLAR ORBITER: LINKING THE SUN AND INNER HELIOSPHERE**

R. Marsden

Research & Scientific Support Department, ESA, ESTEC, P.O. Box 299 2200 AG Noordwijk,  
Netherlands (Richard.Marsden@esa.int / Fax: +31 71 5654697)

The Solar Orbiter Mission will study the Sun and inner heliosphere in greater detail than ever before. At the closest point on its heliocentric orbit, the Solar Orbiter spacecraft will be about 0.22 AU from the Sun, closer than any other satellite to date. In addition to providing high-resolution images of the solar surface, perihelion passes at these distances occur in near co-rotation with the Sun, allowing the instruments to track features on the surface for several days. The mission profile also includes a latitude cranking phase that will allow observations from up to 35° above the solar equator. Multiple Venus gravity assist manoeuvres will be employed to increase the inclination of the orbital plane. The combination of near-Sun, quasi-heliosynchronous and out-of-ecliptic observations by remote-sensing *and* in-situ instruments makes Solar Orbiter a unique platform for the study of the links between the Sun and the inner heliosphere. These aspects will be further enhanced in the context of the Heliophysical Explorers (HELEX) programme, which will exploit the joint capabilities of Solar Orbiter and NASA's Solar Sentinels. Three overarching questions are central to the HELEX programme, namely: What are the origins of the solar wind streams and the heliospheric magnetic field? What are the sources of energetic particles? How do coronal mass ejections evolve in the inner solar system? In this paper, we review the status of Solar Orbiter and discuss the joint science opportunities.