Solar Orbiter: Europe's mission to the Sun

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ESA's Solar Orbiter mission is scheduled for launch in February 2020, and will focus on exploring the linkage between the Sun and the heliosphere. It is a collaborative mission with NASA that will collect unique data that will allow us to study, e.g., the coupling between macroscopic physical processes to those on kinetic scales, the generation of solar energetic particles and their propagation into the heliosphere, and the origin and acceleration of solar wind plasma. By approaching as close as 0.28 AU, Solar Orbiter will view the Sun with high spatial resolution and combine this with in-situ measurements of the surrounding heliosphere. Over the course of the mission, the highly elliptical orbit will get progressively more inclined to the ecliptic plane. Thanks to this new perspective, Solar Orbiter will deliver images and comprehensive data of the unexplored Sun's polar regions and the side of the Sun not visible from Earth. This talk will provide a mission overview, highlight synergies with NASA's Parker Solar Probe and summarise current status.