

The Solar Orbiter Mission – Many Eyes on the Sun

Teresa

Nieves-Chinchilla

NASA - Goddard Space Flight Center

Mueller, Daniel (ESA); Lario, David (NASA); Zouganelis, Yannis (ESA); Inglis, Andrew (CUA/NASA); Thompson, William (ADNET/NASA); De Groof, Anik (ESA); Janvier, Miho (ESA); Williams, David (ESA); Walsh, Andrew (ESA)

Oral

Solar Orbiter, launched from the Kennedy Space Center on February 9th 2020, is a space mission of international collaboration between ESA and NASA. Shortly after the beginning of the nominal mission phase, Solar Orbiter performed its first close solar encounters at 0.32 au in March 2022 and gradually lowered its perihelion distance down to 0.28 au. Solar Orbiter combines high-resolution imaging and spectroscopy of the Sun with detailed in situ measurements of the surrounding heliosphere to study the Sun's corona in unprecedented detail, thus determining the linkage between observed solar wind streams and their source regions on the Sun. Solar Orbiter's science return is significantly enhanced by coordinated observations with other space missions and ground-based telescopes, including Parker Solar Probe, SDO, SOHO, STEREO, Hinode, IRIS, DKIST and now PUNCH. The next Venus Gravity Assistance Maneuver (VGAM) on February 18th 2025 will initiate the increase in the inclination of the spacecraft's orbit, bringing new views of the Sun with unprecedented images and comprehensive data of the unexplored Sun's polar regions and the Sun's far side. This poster provides a status update of the mission, the science activities and summarizes some of the scientific milestones achieved during these four years of mission.

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