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SPICE Operations and Scientific Exploitation

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The SPICE Operations and Scientific Exploitation Team Consortium was selected and approved by ESA in December, 2016. Support for the operations and scientific exploitation of SPICE is shared between 4 main agencies in Europe (CNES, UKSA, the Norwegian Space Center, and DLR) and NASA in the United States. The lead funding agency is CNES (France), responsible for providing leadership and coordinating the collective efforts to ensure that the SPICE operations activities are conducted smoothly and the SPICE Operations Team fulfills its responsibilities.

The Consortium will operate SPICE and provide operations support to the Solar Orbiter Project to fulfill the Solar Orbiter mission's science objectives. In particular, the following top-level tasks to be performed during the operations and scientific exploitation phase of the mission will be discussed:

- Planning of SPICE operations and providing operational inputs to ESA, as well as providing support to the Science Working Team (SWT) and Science Operations Working Group (SOWG) so that operations of all Solar Orbiter instruments are carried in a coordinated fashion.
- Providing ESA with a data processing pipeline for the production of SPICE low latency data at the SOC so these data can be used for the planning of Solar Orbiter operations.
- Setting up and operating a data pipeline to process raw telemetry (TM) into calibrated data products and deliver these data products to ESA.
- Maintaining the SPICE instrument, including monitoring and troubleshooting instrument health and safety.
- Providing software and support to the scientific community to work with SPICE data.

Theses tasks cover two functional groups, the first related to the actual operation of the instrument, the second to allow scientific exploitation of the data by the scientific community. The required tasks can also be divided into provisioning of services (e.g. carrying out science planning activities) and producing the software tools required to provide those services. An overview of these tasks and the consortium team structure and responsibilities will be described in as part of this presentation.