MEDOC: space solar data and tools

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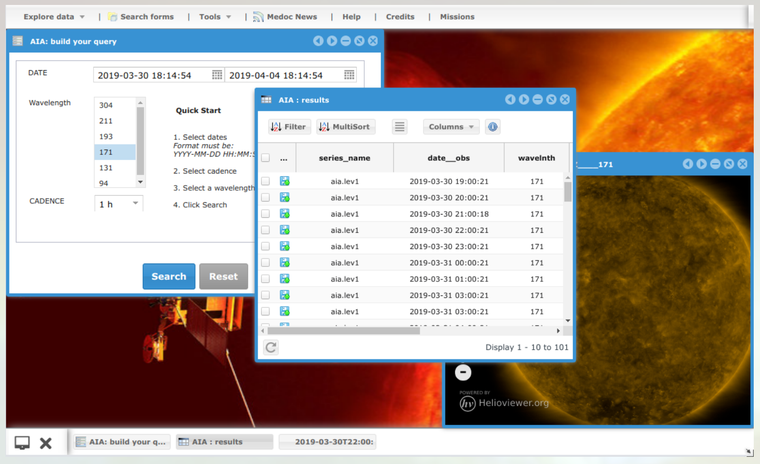
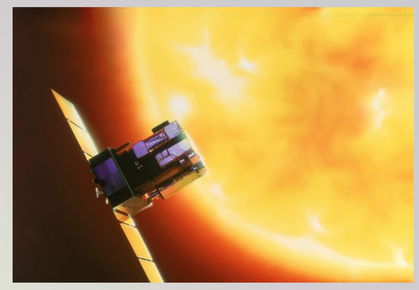
MEDOC, created in 1996 as the Multi-Experiment Data and Operations Centre for SOHO, has become the French national thematic centre for solar physics and includes data from many other space instruments, as well as tools to access, use, and interpret these data.

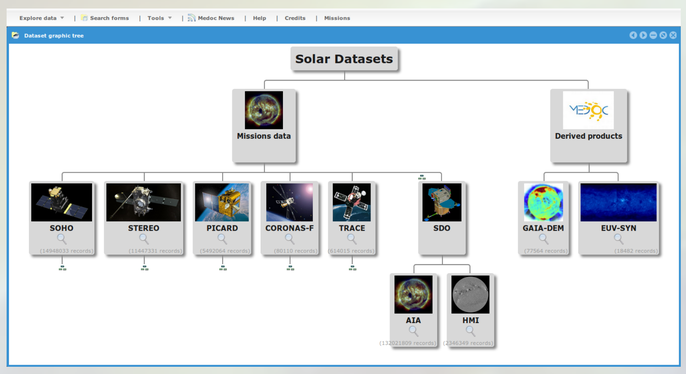
Data archive and redistribution

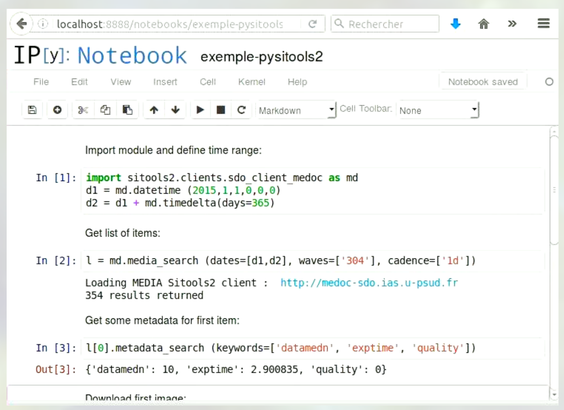
Focus on UV and EUV: images, spectroscopy (+some visible, magnetometry... data):
- SOHO: all instruments; STEREO/SECCHI (85TB)
- SDO: AIA at 1min cadence, and most 12min-cadence HMI series (all mission, 670TB)
- TRACE; CORONAS-F/SPIRIT; PICARD
- Soon: Solar Orbiter

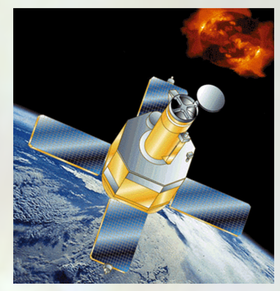
Reliable, ergonomic, and responsive web interfaces (based on the CNES SiTools framework), with IDL and Python clients for advanced uses.

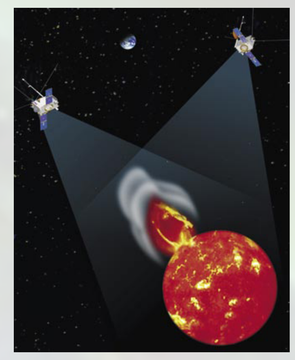






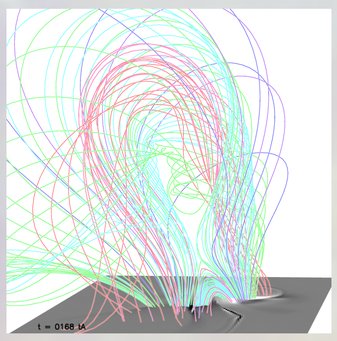


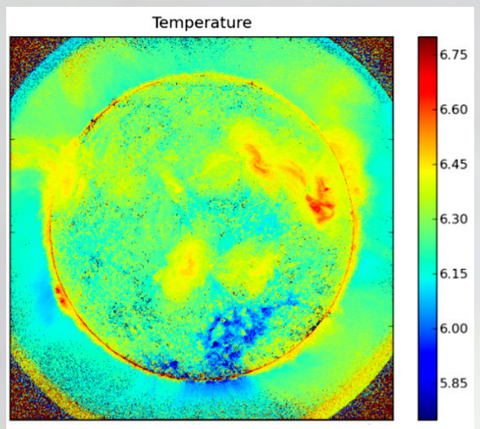


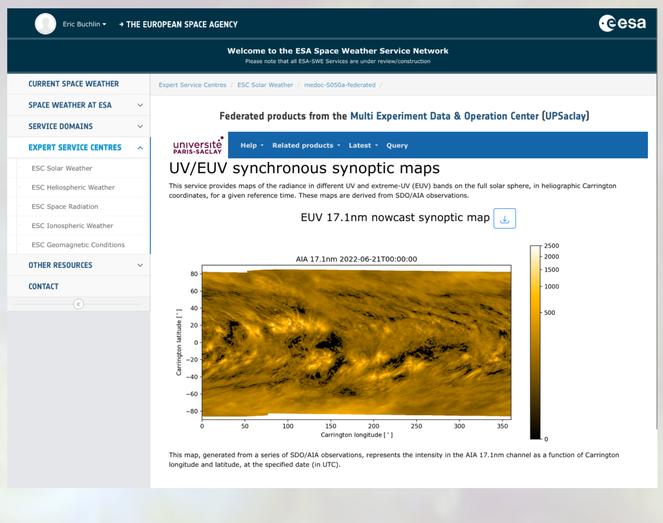


Processed and value-added data

- Emission measure and temperature maps computed from SDO/AIA
- Synchronous synoptic maps (SOHO/EIT; SDO/AIA+HMI)
- Radial electric currents in Active Regions (SDO/HMI)
- Some of these accessible from ESA space weather portal, and/or EPN-TAP VO protocol.
- Database of solar wind model results (VP), and of MHD simulations (OHM; PLUTO/WindPredict) results.
- ICME catalogs

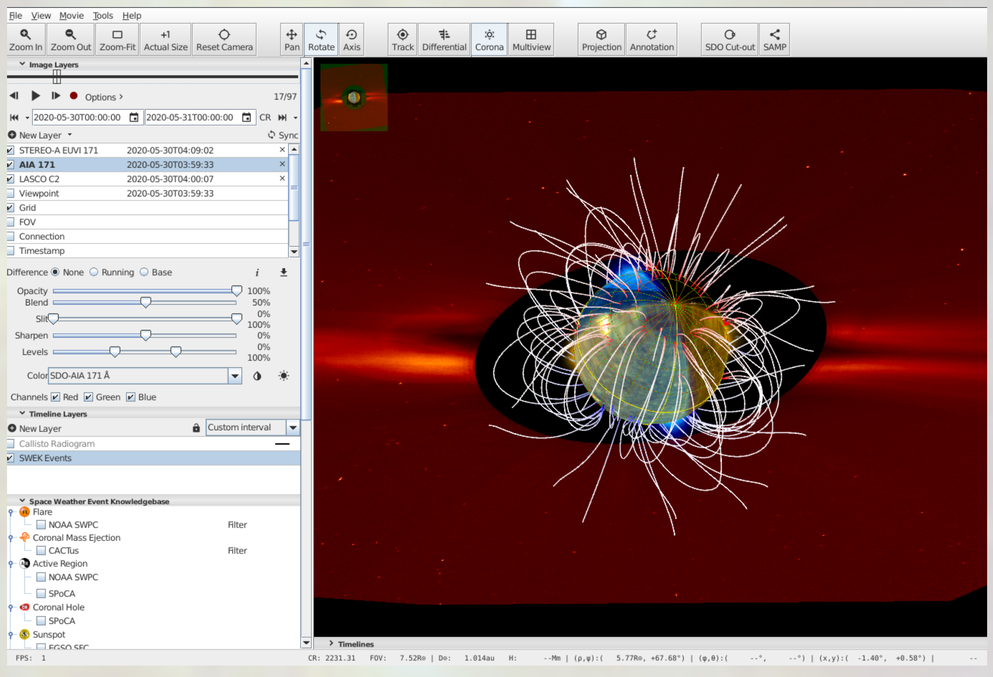






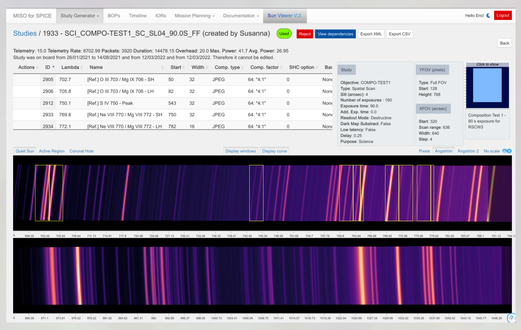
Tools for analysis and interpretation

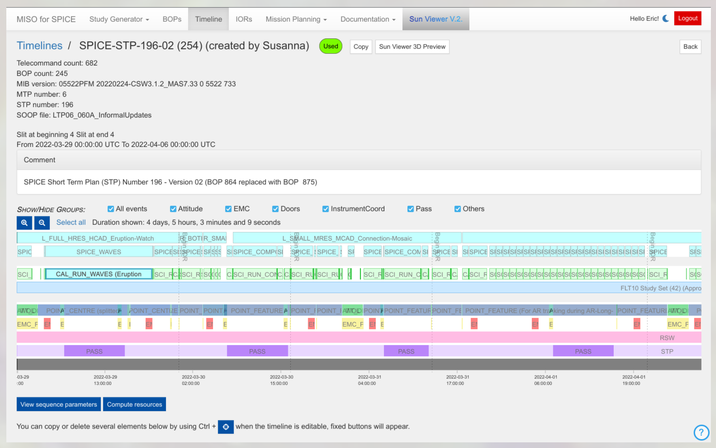
- Helioviewer server and web application (visualization, on-demand movies), with full data mirror from GSFC; connected from the CDPP Propagation Tool
- Non-LTE radiative transfer codes
- Coherent structures tracking code

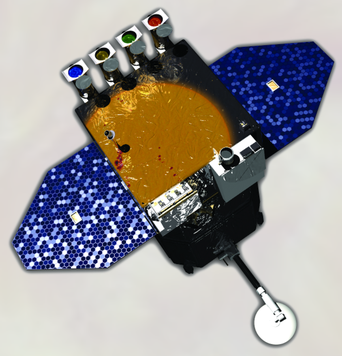


Science operations for in-flight instruments

- SOHO/GOLF
- Solar Orbiter/SPICE







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