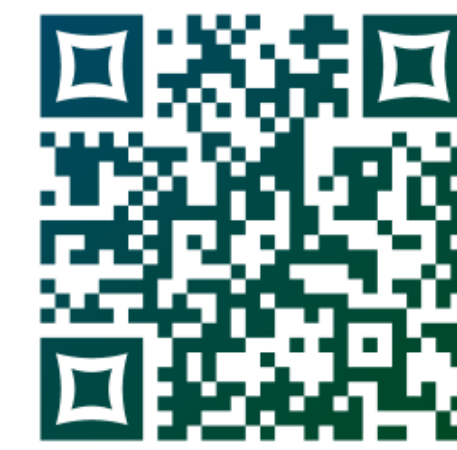


Space solar data and tools at MEDOC

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<http://medoc.ias.u-psud.fr/>



Comprendre le monde,
construire l'avenir®

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 now includes data from many other space instruments, as well as tools to access, use, and interpret these data.

Data archive and redistribution

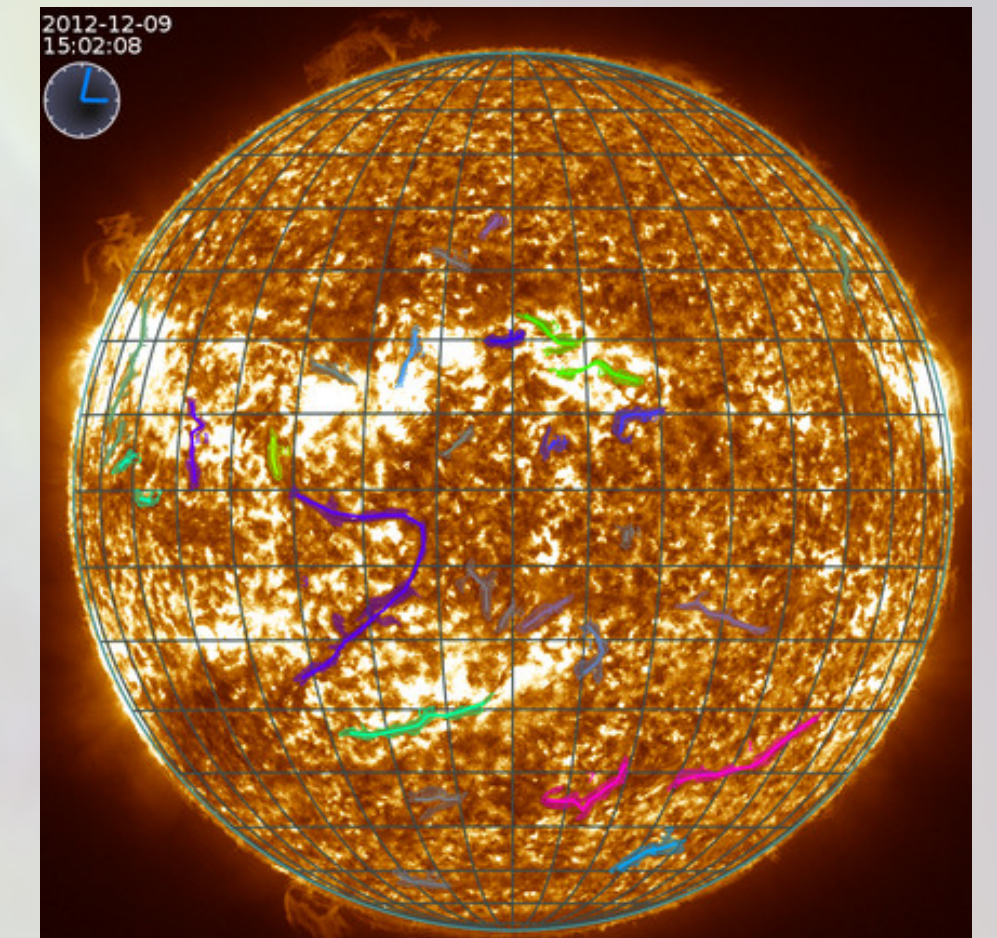
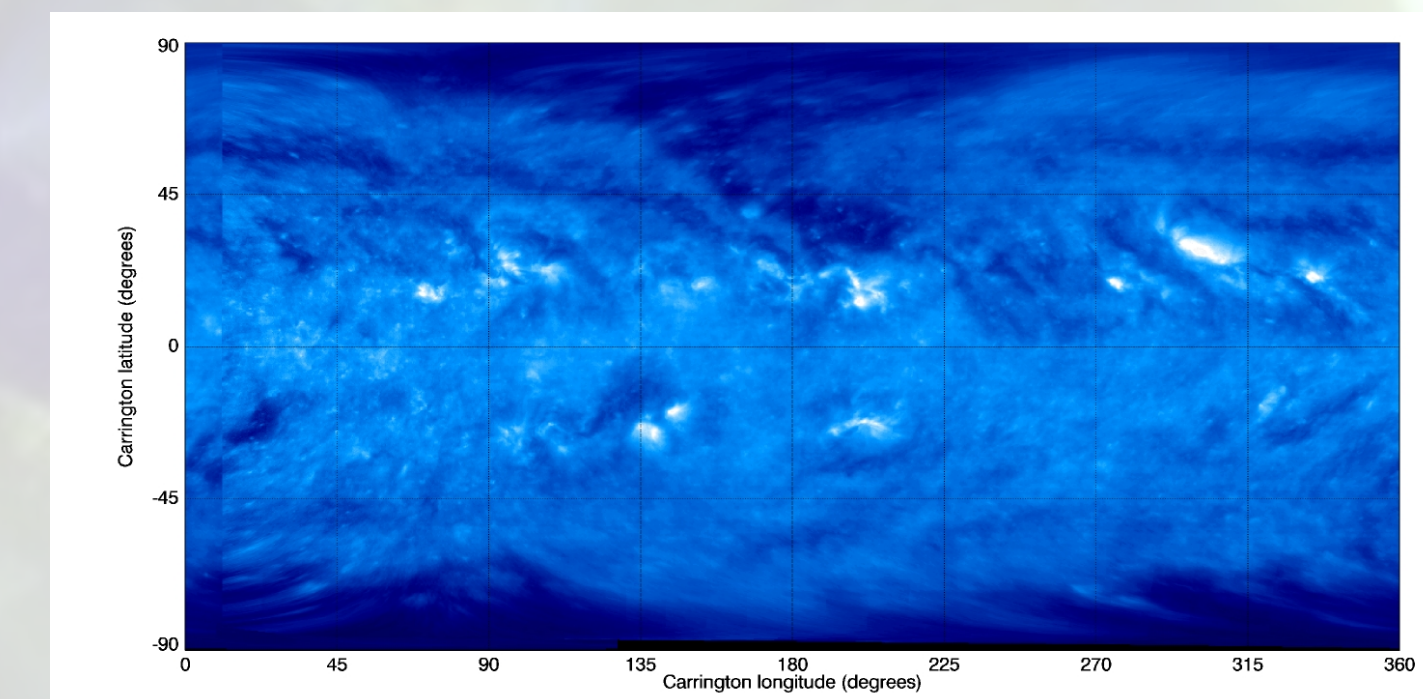
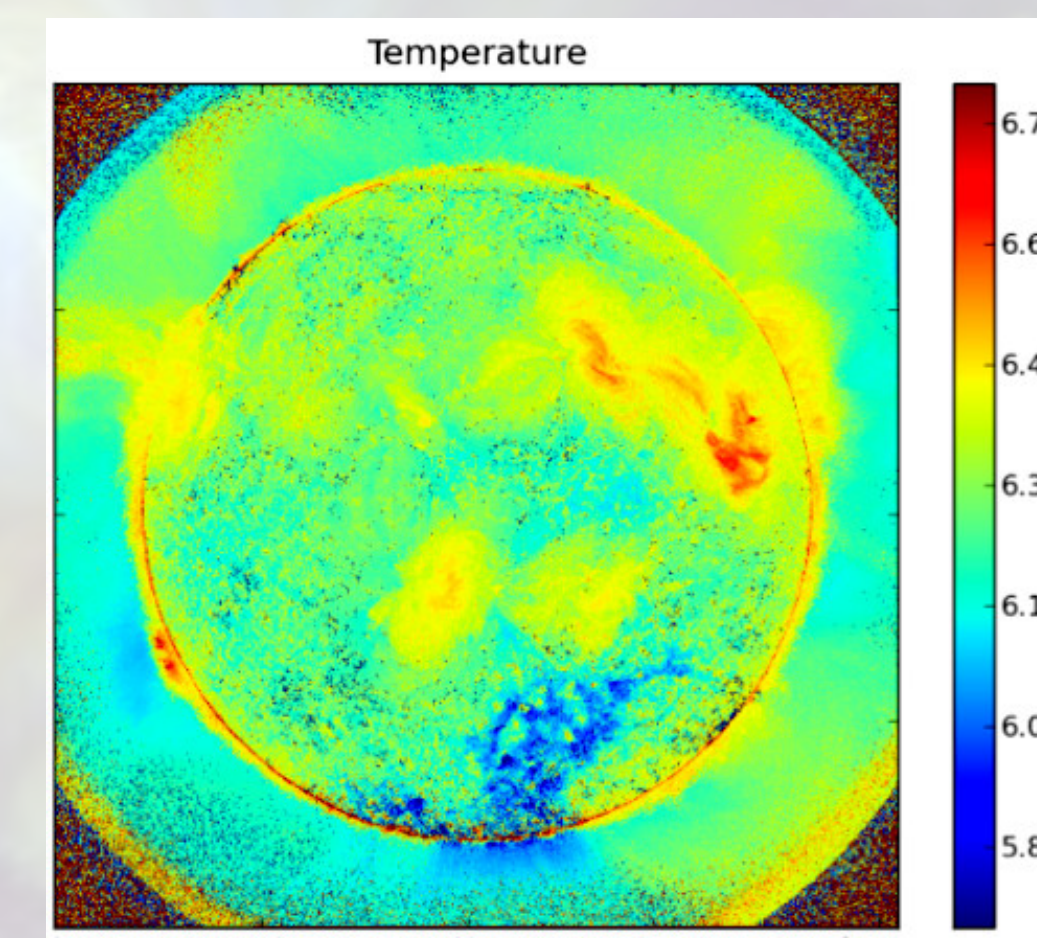
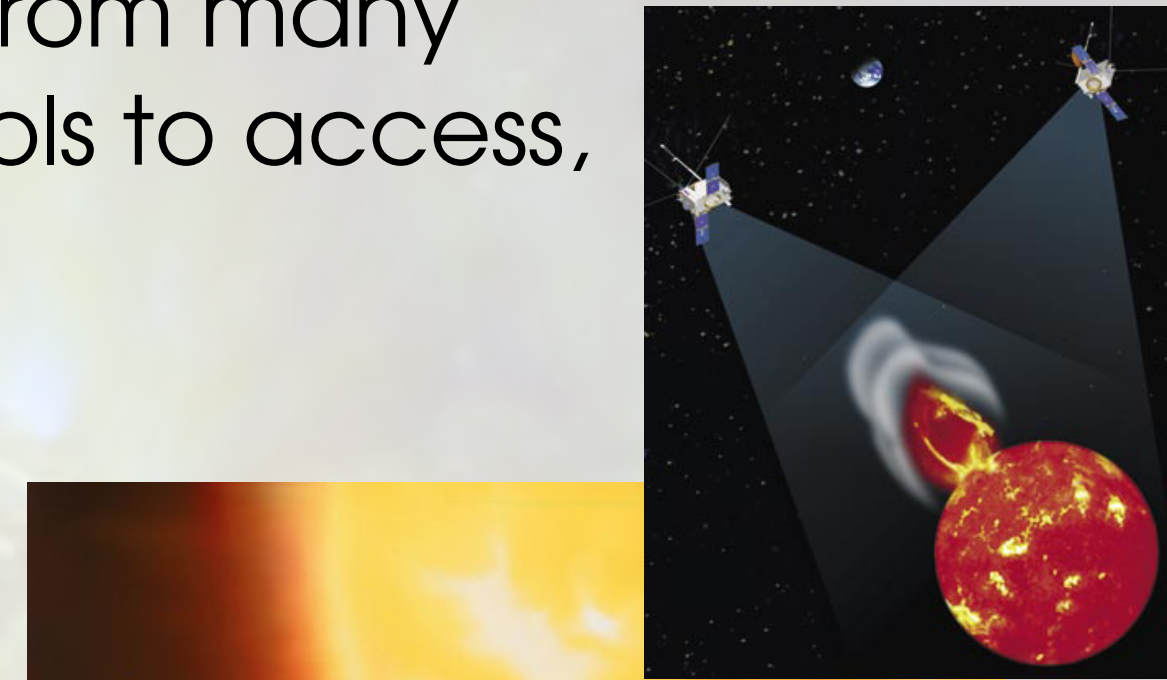
Focus on UV and EUV: images, spectroscopy (+some visible, magnetometry... data):

- SOHO: all instruments; STEREO/SECCHI (62TB)
- SDO: AIA at 1min cadence, and most 12min-cadence HMI series (all mission, 330TB)

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

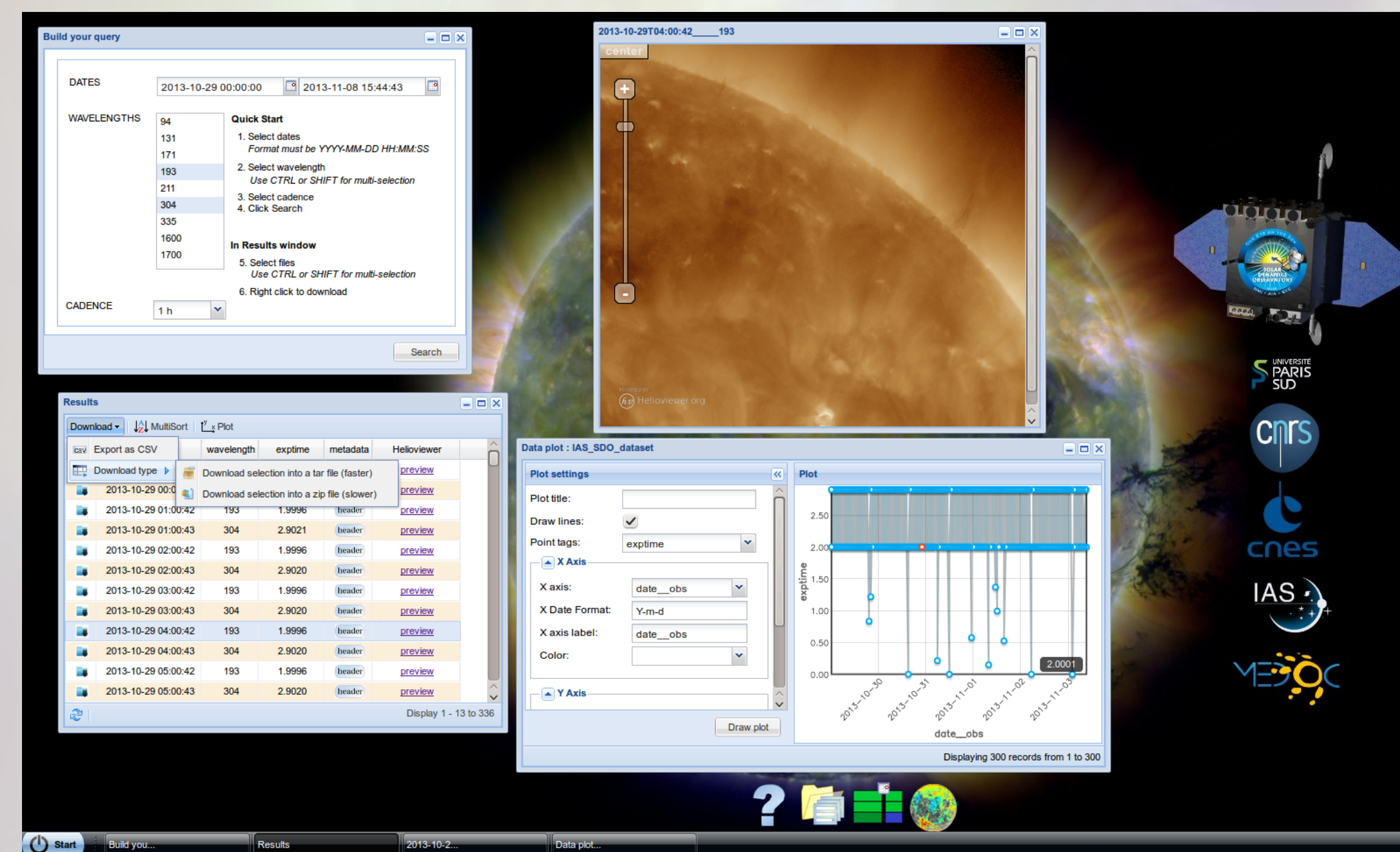
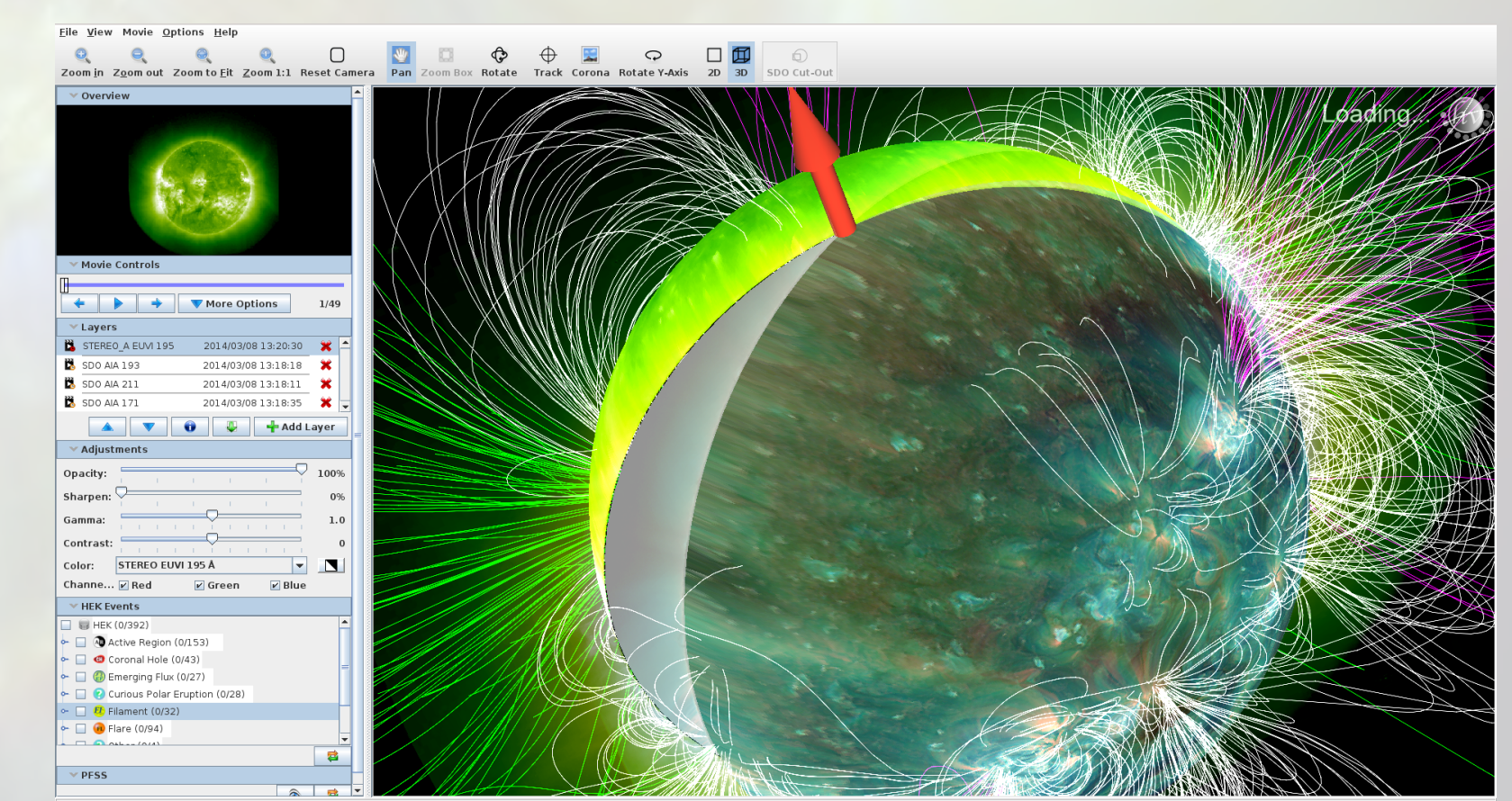
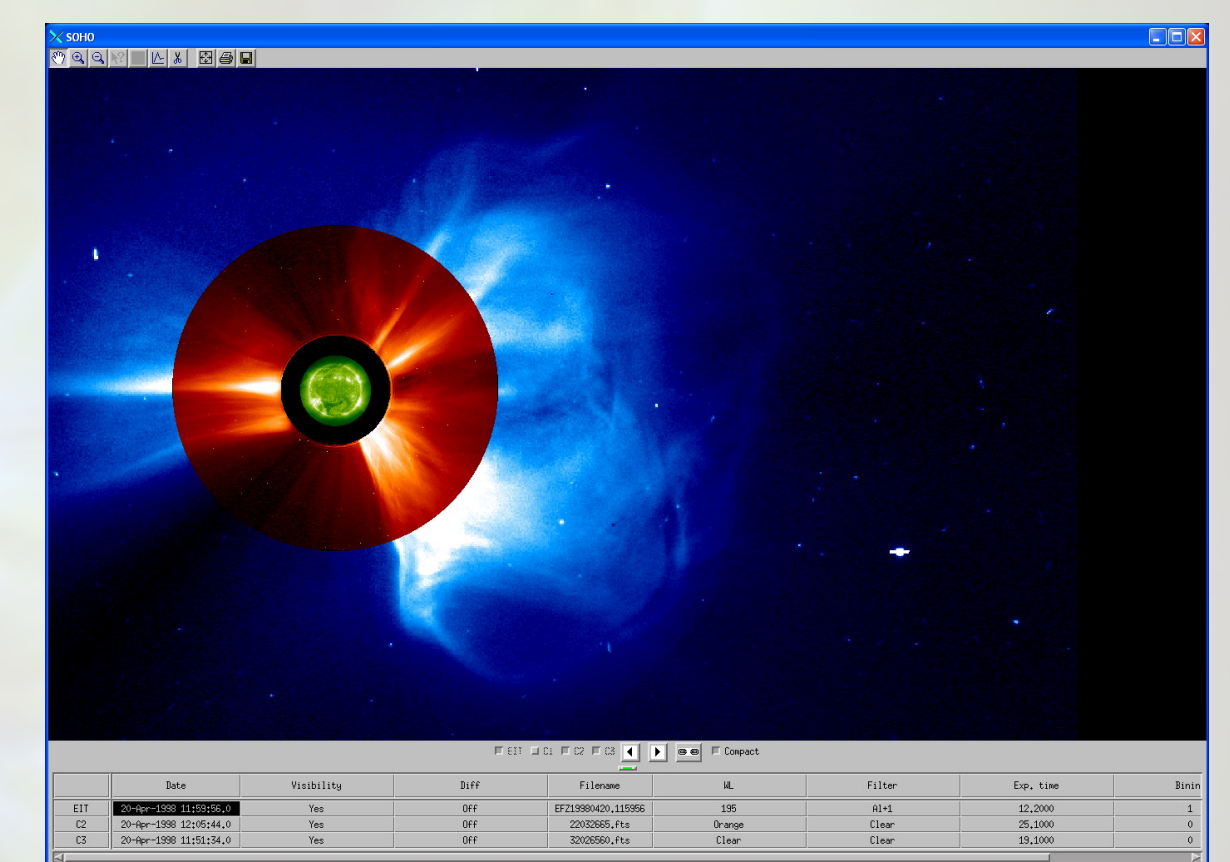
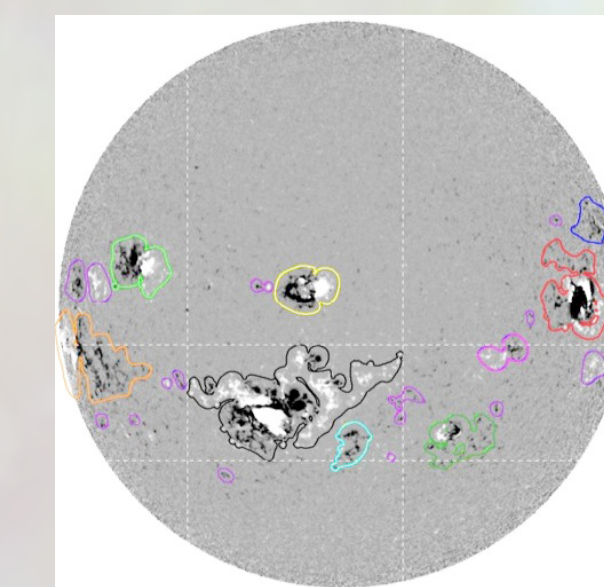
- Emission measure and temperature maps computed from SDO/AIA
- SOHO/EIT synoptic maps
- Database of solar wind model results, and of MHD simulations results.
- HELIO Heliophysics Feature Catalogue.
- Coming soon: automatically detected filaments.



Tools for analysis and interpretation

- FESTIVAL: visualization and scientific data analysis using several instruments
- Helioviewer server and web application (visualization, on-demand movies)
- Connection to MEDOC from the CDPD Propagation Tool
- Radiative transfer codes

In development with the FLARECAST H2020 project: a flare prediction system based on results of machine learning on a database of flares and active regions features.



```
1 from sitools2.clients.sdo_client_medoc import *
2 d1 = datetime(2012, 11, 21, 0, 0, 0)
3 d2 = d1 + timedelta(days=1)
4 sdo_data_list = search(DATES=[d1,d2], WAVES=['335'], CADENCE=['6 h'])
5 for item in sdo_data_list:
6     sdo_metadata = item.metadata_search(KEYWORDS=['quality', 'cdelt1', 'crval1'])
7     if (my_meta_search['quality'] == 0):
8         item.get_file(TARGET_DIR='data/')
```

