Accordo ASI - INAF n. 2020-35-HH.Oi

01/11/2023 **Heliophysics in Europe, ESTEC Noordwijk, The Netherlands**

The CAESAR project: Comprehensive spAce wEather Studies for the ASPIS prototype Realization

Dario Del Moro

On Behalf of the CAESAR team

Project Prime:

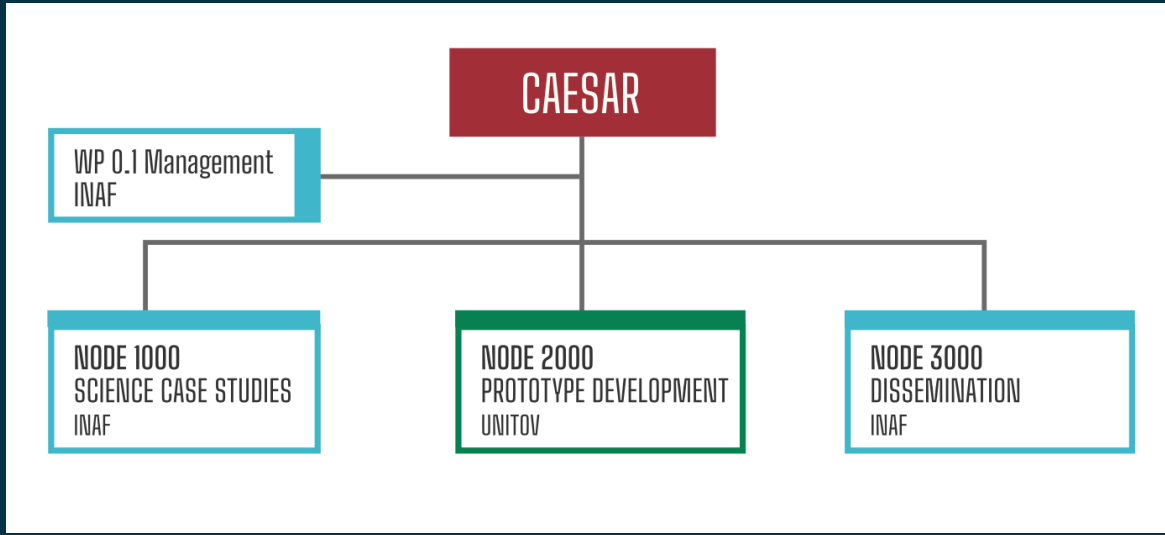
Project Partners:

CAESAR at a glance

CAESAR rallies a great part of the Space Weather (SWx) Italian community and tackles **the main relevant aspects of SWx science.**

10 Italian institutions

96
researchers



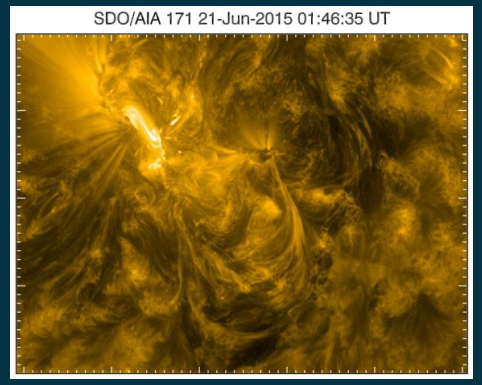
CAESAR objectives

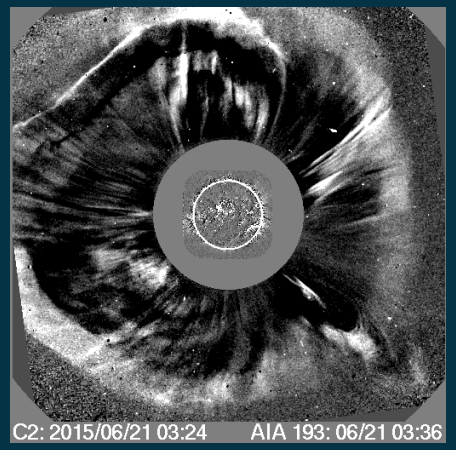
- Advance the **understanding** of the origin and evolution of SWx phenomena;
- Provide novel and longstanding **data, codes and models**;
- Design, implement and populate with such products the **ASPIS prototype** in a flexible, user-friendly infrastructure;
- Pave the way to **future advanced** SWx forecasting capabilities;
- Ensure efficient **dissemination** and foster future studies.

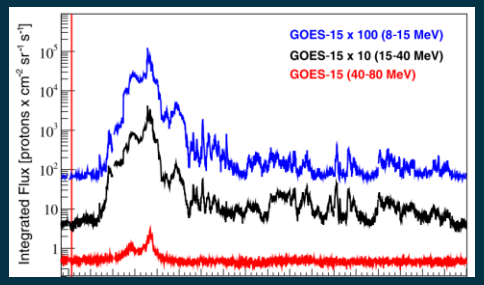
CAESAR scientific approach

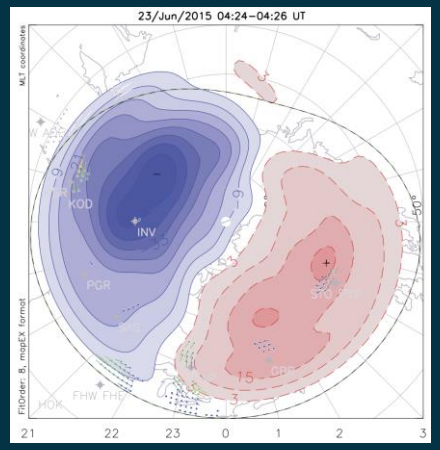
CAESAR adopts a comprehensive, multidisciplinary and integrated approach, encompassing the **whole chain of phenomena from the Sun to the Earth down to planetary environments.**

Geoeffective event

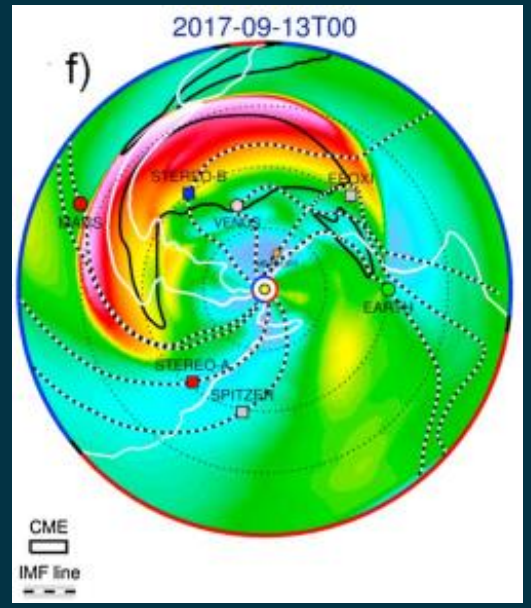








Widespread event



CAESAR investigates a number of well-observed "**target SWx events**" (geoeffective, widespread), exhibiting moderate to extreme SWx characteristics from several perspectives, for detailed case studies.

CAESAR investigations exploit different products, that will be made available in ASPIS.

More info on CAESAR WEB site: https://caesar.iaps.inaf.it/

ACKNOWLEDGEMENT: This research is carried out in the framework of the CAESAR project, supported by the Italian Space Agency and the National Institute of Astrophysics through the ASI-INAF n. 2020-35-HH.0 agreement for the development of the ASPIS prototype of the scientific data centre for Space Weather.

ASPIS Prototype

The ASPIS prototype will:

- Unify multiple SWx resources through a flexible and adaptable architecture
- integrate already available international SWx assets to foster scientific studies and advance forecasting capabilities.

The ASPIS Prototype will be deployed in ASI SSDC:

- More than 100 products
- Ready to ingest new additional product types
- Real-time monitoring
- Two differentiated access interfaces (WEBGUI and ASPIS.py Module) to ease the use of the ASPIS products