



The Seismic Plus Portal

An astero- and helioseismic Portal to promote the awareness and the use of existing seismic data within the stellar physics community and beyond.

<http://voparis-spaceinn.obspm.fr/seismic-plus/>

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INTRODUCTION

The wealth of seismic data available from space borne missions (SOHO, CoRoT, *Kepler*, SDO,...), and from ground-based observations (GONG, Bison, ground-based large programmes...), is stimulating solar and stellar structure and evolution studies but is also opening new scientific perspectives (e.g. characterization of planetary systems, stellar population in our galaxy, etc...). These applications address a broad scientific community within and beyond the solar and stellar communities. They require combining data of various types and from various sources.

The *Seismic Plus* Portal intends to help this development by providing, at a well-identified place, a homogeneous description and access for sources of solar and stellar seismic data as well as for sources of complementary and ground-based data.



Fig. 1: Home page of the *Seismic Plus* portal <http://voparis-spaceinn.obspm.fr/seismic-plus/>

The portal provides a comprehensive view of the available data and data sources in a synthetic way but it also gives access to an in-depth description. In addition, the user is allowed to submit a list of stars for locating existing relevant data and transmitting data requests to the various sources.

DATA SOURCES DESCRIPTION

An extensive list of data source descriptions is available and sorted out following the type of considered data, namely; Times series, Spectroscopy/Individual spectra, Stellar parameters, Other. Two levels of data description have been implemented;

- A synthetic view (Fig. 2) of all data sources of a given type providing the name of the considered instrument, the data types, and the data access options.

Instrument/Project	Object	Data type	Access
CoRoT bright field	stars	• Light curves (ID, 32s sampling) • Light curves from imagettes (ID, 32s)	• At IAS IDOC • At CAB • At CDS with VIZIER
CoRoT fine field	stars	• Chromatic light curves (ID, 32 or 512s sampling) • Monochromatic light curves (ID, 32 or 512s sampling) • Light curves from imagettes (ID, 32s)	• At IAS IDOC • At CAB • At CDS with VIZIER
Kepler	stars	• Light curves (ID, short cadence, 1 min) • Light curves (ID, long cadence, 30 min)	• At KASOC archive • At MAST archive
Ground-based CoRoT complementary archive	stars	• Spectra series (2D)	• At the Brera Astronomical Observatory website
Mark-I	Sun	• Integrated disc velocities (ID)	• At Spanish Virtual Observatory archive
SDO/HMI	Sun	• Dopplergrams (3D, maps of solar surface velocity) • Magnetograms (ID, maps of the photospheric magnetic field) • Continuum Intensity (3D)	• At JSOC archive • see also for pre-processed data at PDS
SDO/AIA	Sun	• Images of the Sun in 10 wavelengths every 10 seconds (3D)	• At JSOC archive
SOHO-GOLF	Sun	• Integrated disc velocities (ID)	• At MEDOC archive
SOHO-VIRGO	Sun	• Integrated disc photometry (ID) (solar total and spectral irradiance and spectral radiance variation)	• At MEDOC archive
SOHO-MDI	Sun	• Dopplergrams (3D) • Magnetograms (3D)	• At JSOC archive • At MEDOC archive • see also for pre-processed data at PDS
GONG	Sun	• Dopplergrams (3D) • Magnetograms series (3D) • Radial velocity (ID) • Intensity series (ID)	• At NSO archive • see also for pre-processed data at PDS
BISON	Sun	• Integrated disc velocities (ID)	• At University of Birmingham site

Fig. 2: Data description page for time series.

- A detailed description (Fig. 3) is provided and allows an in-depth view of the content of the source.

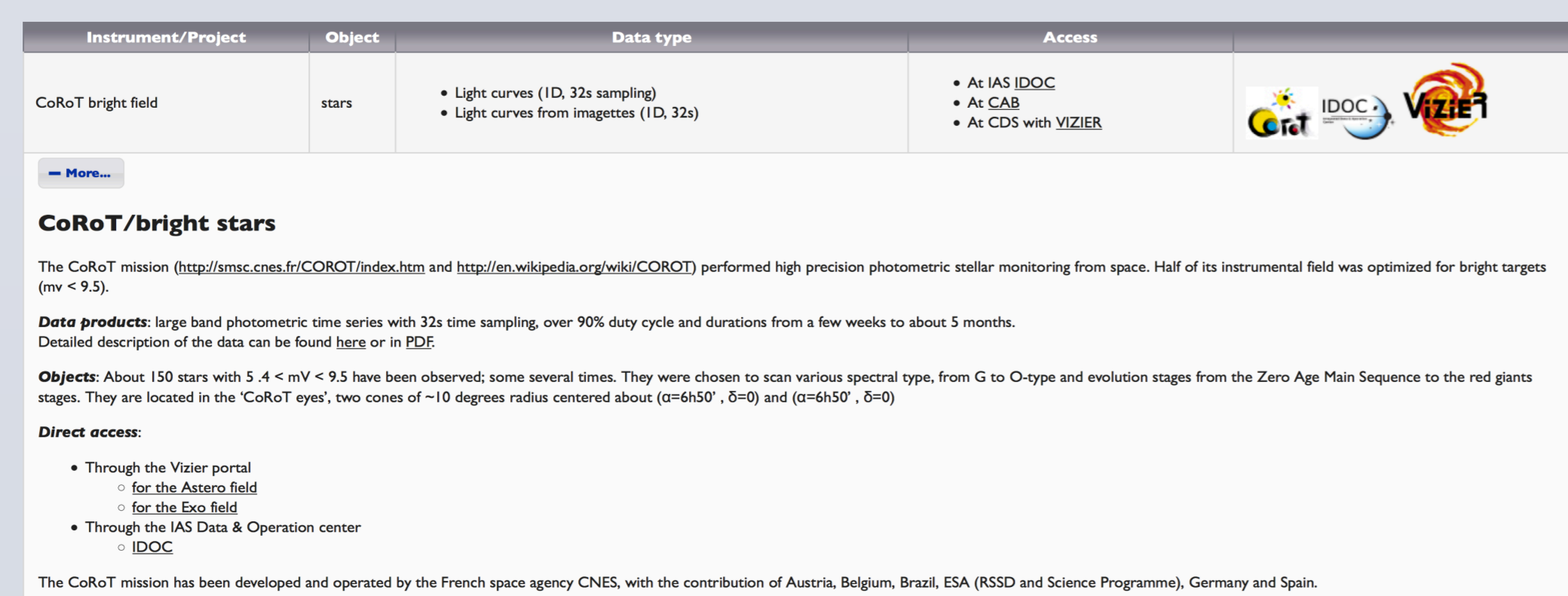


Fig. 3: CoRoT bright stars detailed description page

DATA WHEREABOUTS

A major tool of the portal is to provide a synthetic view to the available data for a given star or a given list of stars. This is provided through the "Search" page. As displayed by Fig. 4. Transmission of the data query to the data sources is also available, after having selected the desired stars, through the « download selected results » at the bottom of the page. A click on a star identifier provides access to an extended list of available data.

Fig. 4: Result page after submission of a list of stars.

QUERY RESULT FOR A SINGLE STAR

For a given star, the portal provides an extensive list of the available data. As shown by Fig. 5, they are sorted out by data types (stellar parameters, light-curves, spectra, etc...). Note that for a given quantity, such as the effective temperature, the portal provides all the values one can find in the different databases.

Fig. 5: Result for the star CoRoT 102739151.

By clicking on the Quicklook images, the user opens an interactive plot allowing for an in-depth view of whether the light-curve or spectra.



Fig. 6: Result for the star CoRoT 102739151. Zoom of the light-curve.

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