

VESPA

Implementation Workshop

2021

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Polarbase_planets
<http://polarbase.irap.omp.eu/>

Data-Science goals

- Reduce data in High resolution spectropolarimetric stellar observation collected with the ESPaDOnS (CFHT) and NARVAL (Pic du midi)
 - Soon from Neo Narval and SPIROU instruments
- We want to publish in a VO/EPN-TAP services the Sun spectra observed through other target like satellite or planet of the Solar System

Data content and format

- Spectra files : reduce data and LSD (Least Square Deconvolution) profiles on the normalized spectra
- Metadata are in a Postgres database and some of them can be provided in .meta file (ascii)
- Data are in the **.fits** file and .s and .out format (Libre-Esprit ASCII format) and ASCII for .lsd file
- Data fits file are already published in a SSAP service
- Attributes that should be published in the EPN TAP service
 - Instrument
 - wave min, wave max
 - Target observed :
 - URL to download the data
 - All the EPN core metadata that we have

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CLIMSO-DB
<http://climso.irap.omp.eu>

Data-Science goals

- Since 2007, 4 instruments to carry a long term survey of the Sun: two solar refractors and two coronagraphs.
 - Coronagraph "C1" $\varnothing=20$ cm, on the H- α line : $\lambda=656.3$ nm $\Delta\lambda=0.25$ nm;
 - Coronagraph "C2" $\varnothing=20$ cm, shared between
 - the He I prominence line $\lambda=1.0830$ μm , $\Delta\lambda=0.25$ nm - 90% of the time;
 - the Fe XIII corona line, $\lambda=1.0747$ μm , $\Delta\lambda=0.25$ nm - 10% of the time;
 - Solar refractor "L1" $\varnothing=15$ cm, H- α , $\lambda=656.3$ nm, $\Delta\lambda=0.05$ nm;
 - Solar refractor "L2" $\varnothing=9$ cm, Ca II, $\lambda=393.4$ nm, $\Delta\lambda=0.25$ nm.
- We publish it through VO/EPN-TAP services for a better data dissemination

Data content and format

- Images files : raw, calibrated, (calibration files ??)
 - Metadata are in a Postgres database
 - Data are in the fits file
 - Attributes that should be published
 - Instrument
 - Wavelength of the observation
 - Target = Sun
 - Url to download the data
 - All the EPN core metadata that we have
 - Currently the EPN-TAP service is under
 - > gavo -version :Software (0.9.6) Schema (13/13)
- => we have to update it :-)

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Mikel Indurain/Alexis Rouillard - IRAP
Service STORMS

STORMS

Solar Terrestrial Observations and Modeling Service

Providing novel models and tools to the heliophysics community



ABOUT



CATALOGUES



SCIENCE
TOOLS



FORECASTING
TOOLS



OPERATIONS



PROJECTS



PUBLICATIONS
& NEWS

Data-Science goals at STORMS

- STORMS produces high-level data products and simulation data to support
 - Research studies combining remote-sensing and in situ data (multimessenger heliophysics)
 - Space mission operations + coordinated campaigns (ground-based/space)
 - Space-weather forecasting
- The STORMS dataproducts are used:
 - to connect imagery (e.g. stored at MEDOC, JHelioviewer) with the in situ data (e.g. stored at CDPP)
 - to decide which targets telescopes on Solar Orbiter should point to during campaigns
 - to refine space-weather forecasts (API response to remote requests)
- And what do you expect from publishing it through VO/EPN-TAP services?
 - Service has received many requests from users to implement API/webservices
 - The European Virtual Space Weather Modelling Center (VSWMC) sends request to STORMS service to run model locally
 - Developers of the widely used JHelioviewer java tool wish to retrieve STORMS model data via SAMP

Data content and format

- STORMS retrieves and delivers .fits/.cdf files as well as ascii/.csv files
- Where possible we have implemented VO standards (c.f. METADATA document for Solar Orbiter, Impex standards for simulation data) but not enough...
- And what attributes (columns, header keywords, etc) should be published (and used as search parameters)? -> time-series, images, spatial boundaries (e.g. coronal holes), orbital trajectories, 3-D trajectories (fieldlines).

This will allow us to project your dataset into the EPN-TAP schema.