

DMP BASS2000 - Observatoire de Paris

[Sources: modèles du Digital Curation Center, H2020 et CEA]

Version number	Date	Description of the modification (chapter)	Author	Status of the document
1.0	2020-06-11	First release	J. Abouardham	Basic version
1.1	2020-11-23	Link to the DOI of the paper describing BASS2000 & HFC	C. Renié	Basic version

1. General information

BASS2000 (<http://bass2000.obspm.fr>) is World Data Center (from ICSU WDS regular member) for Solar Activity, Core Trust Seal certified (<https://www.coretrustseal.org/why-certification/certified-repositories/>).

Project Details		
	Project name	BAse de données Solaire Sol BASS2000
	Project number	N/A
	Project acronym	BASS2000
	Funder	PNST, ObsParis, LESIA
	Grant agreement number	N/A
	Project coordinator and partners	J. Abouardham (LESIA/ObsParis) (Sci respons.) C. Renié (LESIA/ObsParis) (Tech respons.)
	Contact (name, firstname, email, ORCID, affiliation)	Abouardham, Jean, Jean.Abouardham@obspm.fr , ORCID : 0000-0002-0156-8162 , LESIA, Observatoire de Paris, CNRS, PSL
	Project start date	2000
	Project duration	> 40 years
	Abstract	BASS2000 gives access to ground-based solar observations from France, Portugal (Coimbra) and Belgium (USET, ROB). Queries can be made since 1980. Digitized Meudon observation can be accessed since 1870. Added values are available, such as solar spectrum (UV to IR), synoptic maps (1919-2003) and heliophysics feature catalogue.

2. Research data objects

In this section, all scientific research data object shall be described. This includes any observations, measurement, model run, catalog, etc, derived in the course of the project. Software libraries developed in the course of the project shall also be described in this section.

Data Collection	Research data objects (what data will be collected or created)	<p>Kind of data:</p> <ul style="list-style-type: none"> * FITS images * JPG images * PDF files * CSV and VOTable files (xml) <p>(see details after this table)</p> <p>Estimated data volume: \approx 40 GB</p> <p>Content, coverage:</p> <ul style="list-style-type: none"> * Full Sun: 1980-now (digitized ones: 1870-1980) * Synoptic maps: 1919-2003 * Features catalogue: 1996-now
	How will the data be collected or created	<ul style="list-style-type: none"> * Solar images are obtained directly from observing instruments * Synoptic maps: hand-made building * Features catalogue: automatic detection codes
	Instruments used	<ul style="list-style-type: none"> * Meudon spectroheliograph * Coimbra spectroheliograph * Brussel USET solar reflector * Pic du Midi CLIMSO coronagraph <p>For features detections:</p> <ul style="list-style-type: none"> * Meudon spectroheliograph * SOHO/EIT images * SOHO/MDI images * SDO/AIA images * SDO/HMI images * Wind/waves data * STEREO/Swaves data * Nançay RH observations
	Data description	Data description available at: http://bass2000.obspm.fr/data_guide.php?lang=en
	Data property	Open access with a CC-BY-NC-SA-4.0 license
	Re-use of existing data?	No
	General data policy	Open access
	Documentation	Documentation

		https://doi.org/10.25935/6p7v-4208
	Scientific publications	

List of instruments and observations:

- * Meudon spectroheliograms: H α , Ca II H & K (line center and continuum for all) : FITS format
- * Historical Meudon spectroheliograms: H α , Ca II K lines: JPG format
- * Coimbra spectroheliograms: H α (line center and dopplergram), Ca II K (line center and continuum for all): FITS format
- * USET H α observations: H α ; FITS format
- * CLIMSO coronagraph: H α , He I coronagraphic images, H α , Ca II K full Sun: FITS format
- * Nançay decametric array (NDA): quick look: png format
- * Nançay radioheliograph (NRH): 2-D quick look images at 150.9, 164 and 327 MHz: png format
- * Heliophysics Feature Catalogue (HFC): ASCII files organized in .csv or VOTable (xml) format

3. Making a FAIR project

a. Making data findable

Metadata	Standards and format	FITS headers are built following the common international use (lack of standards in Solar physics) Following EPN-core data model, an EPN-TAP layer is added on the data.
	Persistent identifier	DOI in preparation for each dataset and most of the added-values

b. Making data accessible

Open access	General policy	Will the data be openly available? If not, why Level access (all, members of the project...) Open source code?	All data are in free access
	Accessibility of the data and metadata	Choice of a repository or archive	BASS2000 owns its own repository
	Access procedures	Methods, software tools Description of the conditions for access (machine readable license...) If restrictions on use,	Access if possible either through a web GUI (php, postGRE SQL), or using direct FTP access. No restriction.

		how will access be provided	
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c. Making data interoperable

Making data interoperable	Interoperable standards and formats Metadata vocabularies Methods Interoperability between disciplines?	EPN-TAP layer. Data are available through VESPA VO portal: http://vespa.obspm.fr/planetary/data/
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d. Increase data re-use

Data sharing	Sharing the data	Free access/download and CC-BY-NC-SA-4.0 license ensure free sharing of data
		Data are fully available as soon as they are produced. In the case of Nançay solar radio observations, we only provide quick look. Full data are to be searched through Nançay own tools. No sharing agreement is required.
Data re-use	License	License : CC-BNC-SA-4.0 (see https://creativecommons.org/licenses/by-nc-sa/4.0/)
	Length of time for re-use	No limitation

4. Responsibilities and resources

Responsible for data management	<p>Data capture: Data are directly produced by the instruments</p> <p>Metadata production: FITS header keywords are automatically generated by the instrument at file creation</p> <p>Data quality: <i>Observatoire de Paris</i></p> <p>Storage and backup: <i>BASS2000 and LESIA</i></p> <p>Data archiving: <i>BASS2000 and LESIA</i></p> <p>Data sharing: <i>BASS2000 and Observatoire de Paris</i></p>
Resources	<p>Costs associated for making data FAIR (repository; time to prepare the data; resources and systems...): LESIA and PADC support</p> <p>Costs of long term preservation (software,</p>

	hardware, technical expertise...): PNST (Programme National Soleil Terre), LESIA and Observatoire de Paris. The total cost (server renewed, disks, ...) is approx.. 1000 € per year, plus salary of an engineer for 0.2 FTE and a researcher for 0.2 FTE
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5. Archiving and preservation

Most data repositories are proposing archiving plans, as part of the data hosting and distribution.

Selection	Which data are of long-term value and should be retained, shared, and/or preserved?	All data are long-term preserved.
Storage and backup	How will the data be stored and backed up during the research?	Data are stored on BASS2000 servers and backed up using LESIA tools, every day.
Data security	Access and security	Access control is made through the security tools of Observatoire de Paris.

6. Ethical aspects

This section may not apply to science data, but other dataset, such as project user personal data, website access statistics, etc, must be carefully considered with the Data Protection Officer (DPO) of Observatoire de Paris, as required by the EU GDPR regulation.

Ethics and Legal Compliance	How will the ethical issues managed	Data need anonymization? No How to secure sensitive data? There are no sensitive data Consent of all the participants for sharing and reusing data Consent is obtained through the license adopted by all data providers.
	Identification of sensitive data	N/A
	Copyright and Intellectual Property Rights issues	Rights held by Observatoire de Paris