



IHDEA #4 – Oct. 2020

CNES highlights

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- Established in 1998 from a CNES/CNRS collaboration for natural plasma data distribution and archiving
- The archive gives access to 21 various missions (with french partnership): magnetosphere, ionosphere, planetary, comets. The oldest dated 1980 (GEOS)

-> **in continuous progress**

- Data Format -> native for old missions, **CDF ISTP/IACG** for newer ones

- The metadata is based on an old model (defined in 2005)

-> **SPASE**

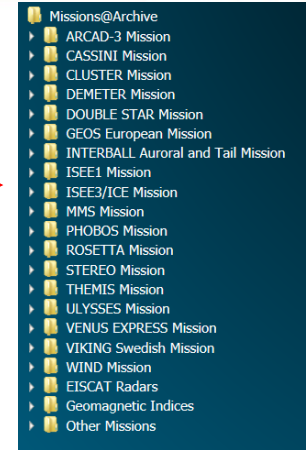
-> **DOI**

- SIPAD archiving system is used for data managing, archiving and dissemination : cdpp-archive.cnes.fr

-> **new REGARDS**

- The storage system (StorageTek magnetic cartridges robot) will also evolve

-> **Datalake** (on-line, near-line storage)



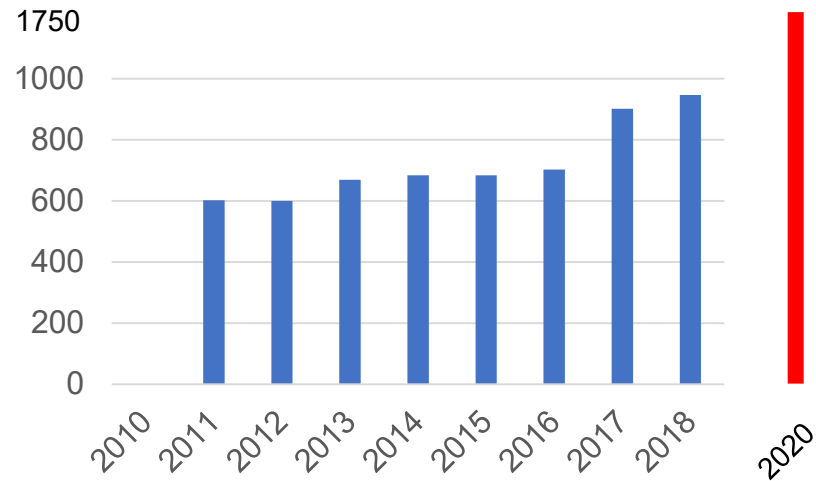
- **MMS / FPI: 8 data sets (DES Dual Electron Sensor, DIS Dual Ion Sensor)**
- **VEX / ASPERA: 5 data sets (IMA Ion Mass Analyzer)**
- **GEOS S300, S331 Magnetometer: 18 data sets**
- **ISEE1 / Souder: 4 data sets**

In preparation:

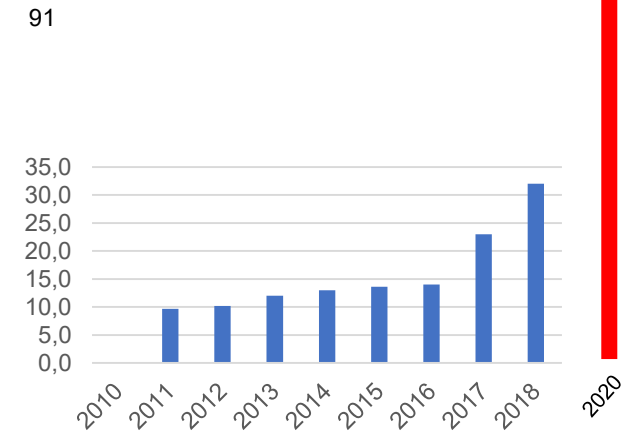
- **Parker Solar Probe / FIELDS SCM**
- **STEREO / SWEA**

- **First public Solar Orbiter in situ data (MAG, PAS, EPD)**
- **First Parker Solar Probe in situ data (MAG, SWEAP, ISIS)**
- **STEREO energetic particles (HEP, SEP)**
- **ULYSSES particles (SWOOPS, SWICS)**
- **Helios (MAG)**
- **AMPTE magnetic field & plasma**
- **Interball magnetic field & plasma**
- **Freja magnetic field & electron**
- **Cluster electron (PEACE)**
- **MMS**
- **Phobos 2 magnetic field & plasma (MAG, ASPERA)**
- **Solar wind propagation 1D MHD at planets and spacecraft**

Number of datasets



Data volume (To)

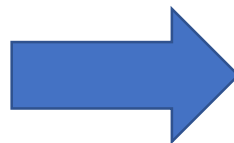


CDPP Data Model

TODAY

- **A large number of attributes equal to SPASE (but with differences between lists on both sides):** Data Set (Data set description, instrument Description (measurement type, instrument type ...)
- **List of attributes to be adapted:** physical parameter ...
- **A few attributes are CDPP specific** (experiment ...)

SPASE is richer



Migration
(tools,
adaptations)

New CDPP Data Model

TOMORROW

SPASE Data Model

- **Fully compliant with SPASE Numerical Data (Resource Header, Instrument ID, Measurement Type ...), Instrument ...**
- **All mandatory attributes present**
- **Lists updated**
- **Optional attributes added**

Regards Data Model

Specific attributes kept (search function)

On the user side:

- > to be able to understand the data
- > To be able to see the metadata on the Regards GUI
- > To access and get the xml SPASE metadata

On the SPASE community side:

- > Repository SPASE, taking into account CDPP archive and AMDA (homogeneous and distincts)

Github : <http://github.com/hpde>

CNES
Numerical Data
CDPP-archive
CDPP-AMDA
Display Data
CDPP-archive
CDPP-AMDA
Instrument ...
Observatory ...
Contact ...

- The objective is to offer with REGARDS a **unified view** of the CNES archive and the AMDA database, to search and to select data on both sides
 - Using the AMDA web services
 - With more possibilities of research and services
- **Adding value and** allowing a better usage of data by offering I/F to CDPP tools (AMDA, 3DView ...) and other community tools
 - thanks to interoperability protocols such as HAPI

PLANNING:

- 2021 Regards for CDPP (1. access to the archive, 2. AMDA view),
- 2022... interoperability with tools