HAPI-- easy access to time series data for multiple missions

http://hapi-server.org/

The Heliophysics Data Application Programmer's Interface (HAPI) specification is a time series download and streaming format specification plus tool bundle Useful for SCIENTISTS wanting easy access to multiple data sets, and to DATA PROVIDERS seeking a standard for serving time series data..

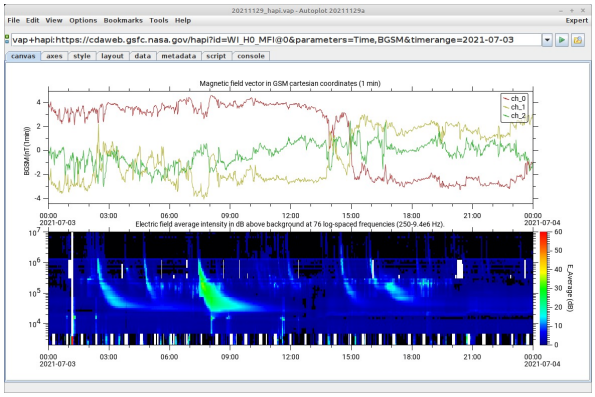
When data are available from a HAPI server, there is no need to download data files and write custom file reader programs.

Using a HAPI client library, data can be loaded into an array using a single command in IDL, MATLAB, and Python. Currently HAPI has **time series data from *AMDA, CCMC/iSWA, CDAWeb, Das2, FTEC, LISIRD, OMNIWeb & SSCWeb.***

- HAPI provides a standard specification that simplifies data access for Heliophysics time series data
- Software for downloading data from HAPI servers in Autoplot, IDL, MATLAB, SPEDAS, and Python
- Provides the simplest API that allows access to time series data in a streaming form
- Allows a user not to need knowledge of file system boundaries, directory layouts, and file formats
- Data are accessible at a minimum in a simple CSV-formatted stream + JSON metadata
- COSPAR-approved: that *"HAPI be the common data access API for space science and space weather data."*
- All HAPI data accessible via*: http://hapi-server.org/servers/*

Tools and clients available at http://github.com/hapi-server/, data and documentation at http://hapi-server.org/servers/, or contact us at hapi-help@groups.com

Autoplot

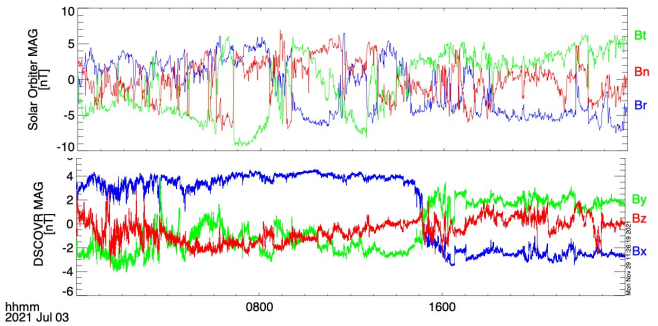


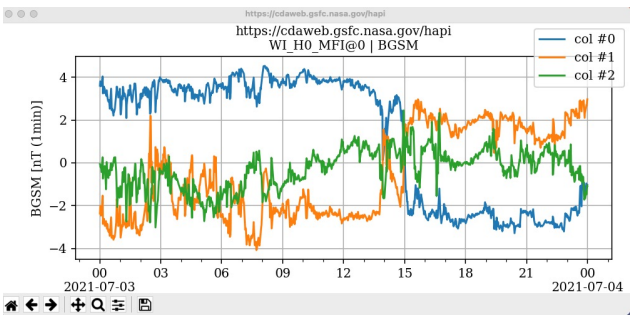
SPEDAS

```
trange = ['2021-07-03', '2021-07-04']

hapi_load_data, server='https://cdaweb.gsfc.nasa.gov/hapi', dataset='SOLO_L2_MAG-RTN-NORMAL-1-MINUTE', trange=trange
hapi_load_data, server='https://cdaweb.gsfc.nasa.gov/hapi', dataset='DSCOVR_H0_MAG', trange=trange

options, 'b_rtn', labels=['Br', 'Bt', 'Bn']
options, 'b_rtn', colors=[2, 4, 6]
options, 'b_rtn', ytitle='Solar Orbiter MAG'
options, 'b_rtn', ysubtitle='[nT]'
options, 'b1gse', labels=['Bx', 'By', 'Bz']
options, 'b1gse', colors=[2, 4, 6]
options, 'b1gse', ytitle='DSCOVR MAG'
options, 'b1gse', ysubtitle='[nT]'
tplot, ['b_rtn', $ ; MAG data (RTN coordinates)
        'b1gse'] ; DSCOVR mag data
tprint, 'spedas_hapi', /landscape
```



HAPI-Py

```
File Edit Options Buffers Tools Python Help
from hapiclient import hapi
from hapiplot import hapiplot

server     = 'https://cdaweb.gsfc.nasa.gov/hapi'
dataset    = 'WI_H0_MFI@0'
start      = '2021-07-03T00:00:00'
stop       = '2021-07-04T00:00:00'
parameters = 'BGSM'
opts       = {'logging': True, 'usecache': False}

data, meta = hapi(server, dataset, parameters, start, stop, **opts)
hapiplot(data,meta)
```