FINDING REAL DATA

and not just png pictures and movies

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http://sidc.be, http://proba2.sidc.be

HOW DOES SPACE WEATHER DATA GET ONLINE?

Spacecraft

Auxialiary Device

Spacecraft computer

Science Instrument

Radio communication

Telemetry

Mission Operations Center

Depacketizing

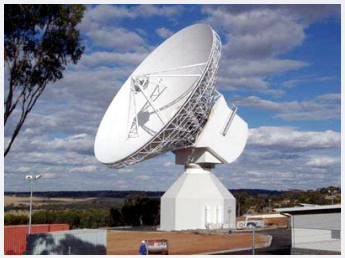
Decompressing

Raw instrument data

Housekeeping data

Commanding archive

Orbital data



HOW DOES SPACE WEATHER DATA GET ONLINE?

Mission Operations Center

Depacketizing

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Orbital data

Science Operations Center

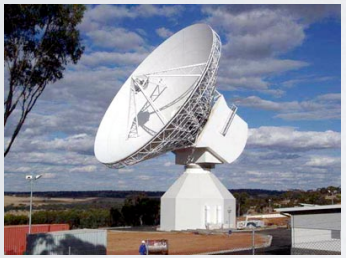
Selection

Recombination

Calibration

Science Data product Level 0

Science Data product Level 1



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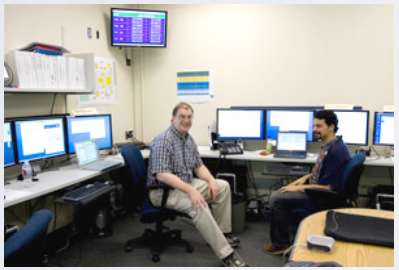


Space Weather Website

Event identification

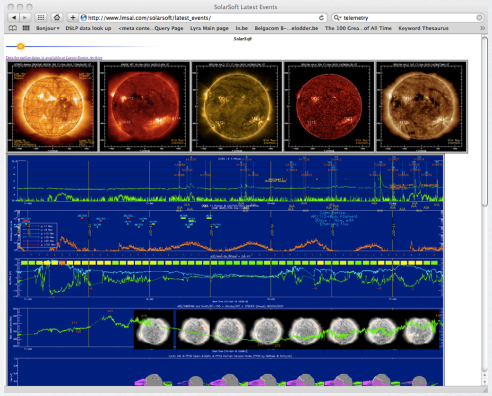
beautifying

Secrets & bugs and stupiddities

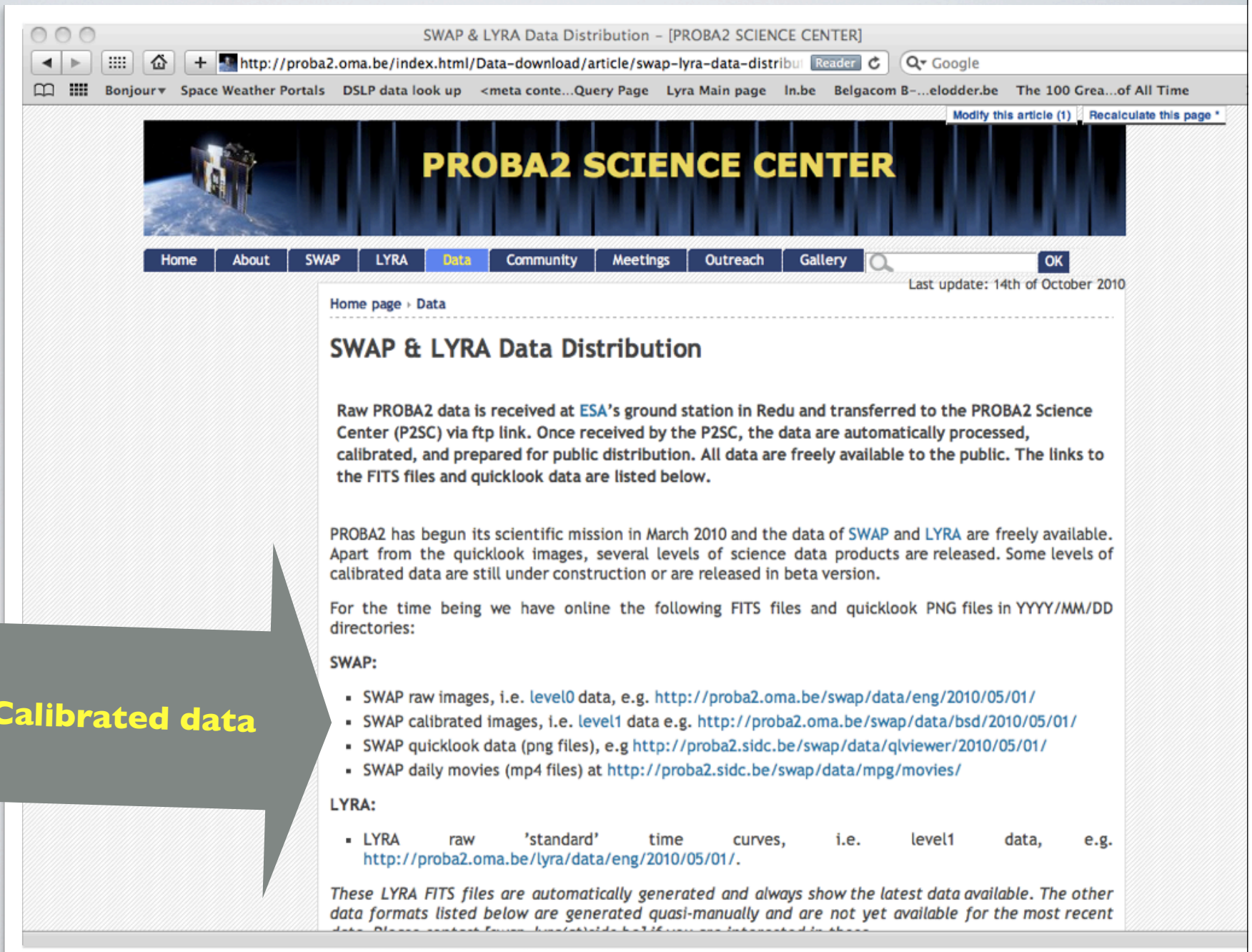
Event lists

Movies

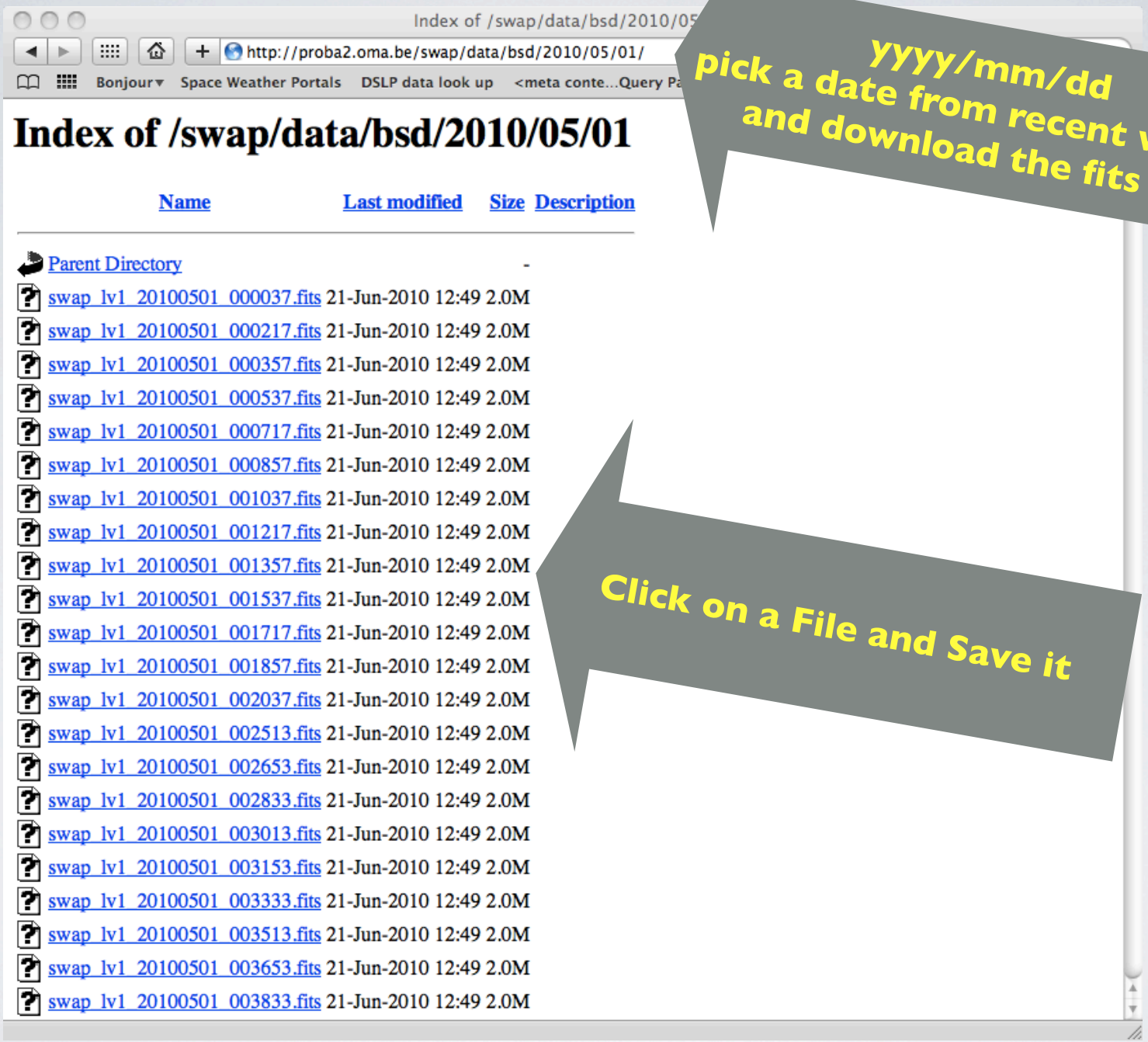
Pictures



GOOGLE ON "SWAP DATA DISTRIBUTION"



Go to Calibrated data


Index of /swap/data/bsd/2010/05
http://proba2.oma.be/swap/data/bsd/2010/05/01/
Bonjour
Space Weather Portals
DSLP data look up
<meta conte...Query Pa
Index of /swap/data/bsd/2010/05/01
Name
Last modified
Size
Description
Parent Directory -
swap_lv1_20100501_000037.fits 21-Jun-2010 12:49 2.0M
swap_lv1_20100501_000217.fits 21-Jun-2010 12:49 2.0M
swap_lv1_20100501_000357.fits 21-Jun-2010 12:49 2.0M
swap_lv1_20100501_000537.fits 21-Jun-2010 12:49 2.0M
swap_lv1_20100501_000717.fits 21-Jun-2010 12:49 2.0M
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swap_lv1_20100501_003013.fits 21-Jun-2010 12:49 2.0M
swap_lv1_20100501_003153.fits 21-Jun-2010 12:49 2.0M
swap_lv1_20100501_003333.fits 21-Jun-2010 12:49 2.0M
swap_lv1_20100501_003513.fits 21-Jun-2010 12:49 2.0M
swap_lv1_20100501_003653.fits 21-Jun-2010 12:49 2.0M
swap_lv1_20100501_003833.fits 21-Jun-2010 12:49 2.0M
yyyy/mm/dd
pick a date from recent weeks
and download the fits file
Click on a File and Save it

Hard core unix & IDL scripting ahead

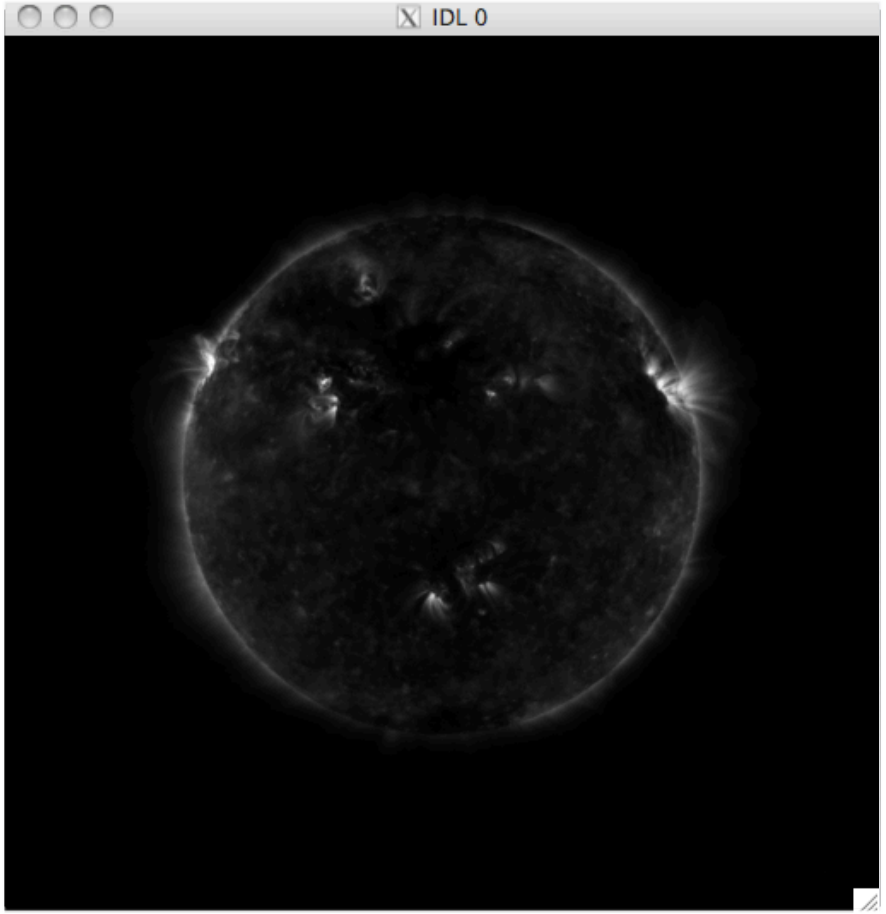
On Linux:

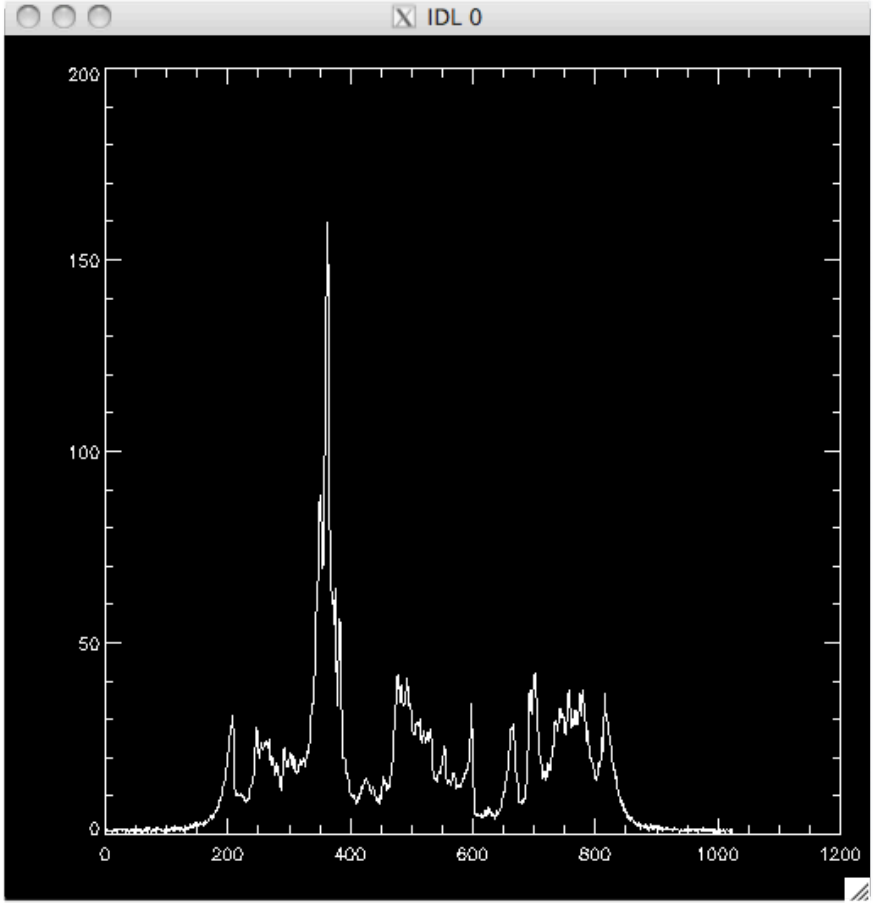
- go to the Menu (bottom-left)
- Go into "Tools" (5th line in All Aplications)
- Click on "XTerm" (at the bottom)

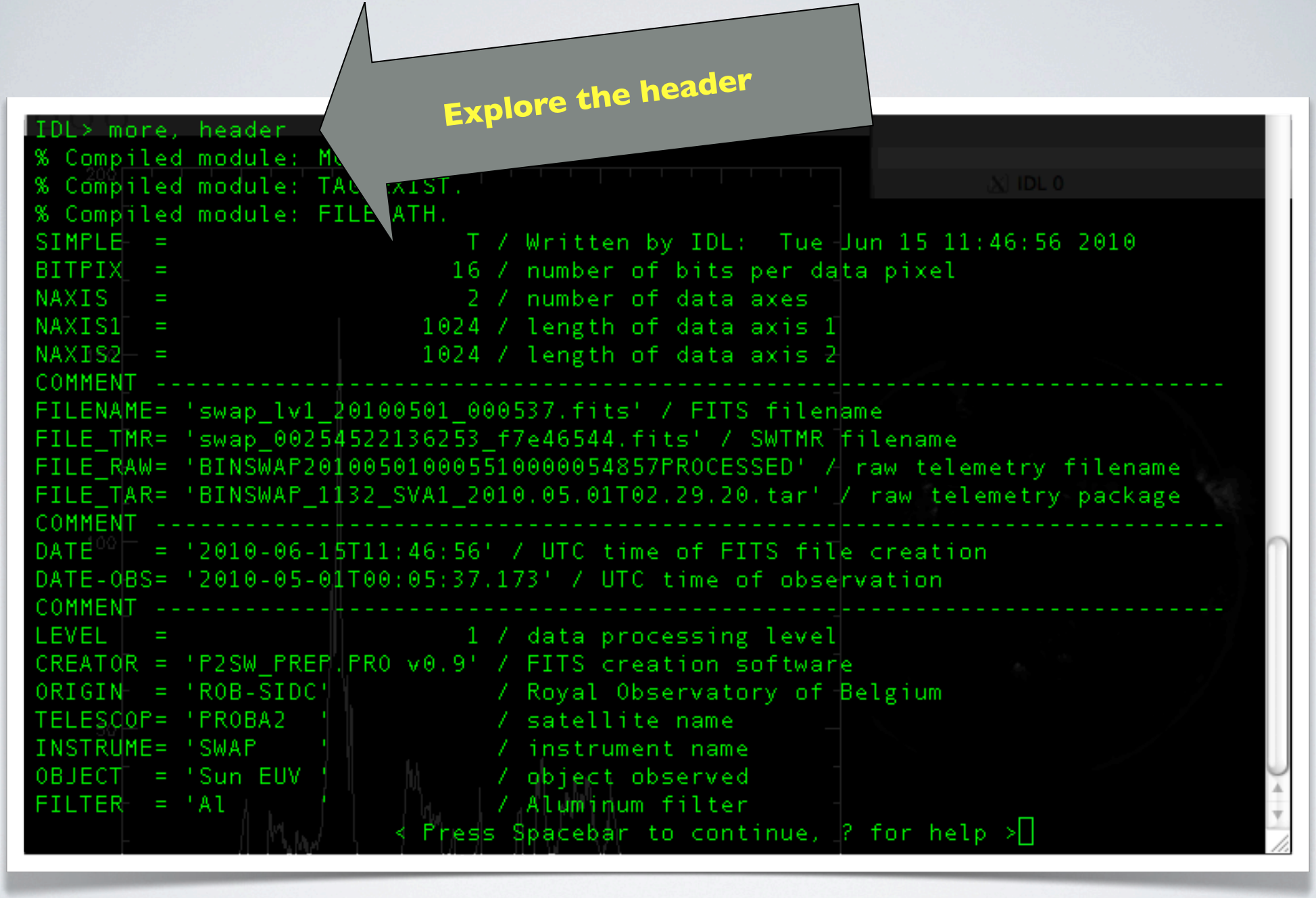
Start IDL with SolarSoft Library
david@sol061$ sswidl
SSW setup will includ
cactus trace swap>
Type <sswidl> to start SS IDL
Running SSW, Last Updated: Wed Nov 2 22:22:51 GMT 2005
PROBLEMS? - e-mail TO: freeland@penumbra.nascom.nasa.gov
IDL Version 7.0, Mac OS X (darwin i386 m32). (c) 2007, ITT Visual Information Solutions
Installation number: .
Licensed for use by: IA-BAS
Executing SSW IDL_STARTUP for: GEN
IDL>
Read your image
IDL> image = readfits('swap_lv1_20100501_000537.fits', header)
% Compiled module: READFITS.
% Compiled module: SXPAR.
% Compiled module: GETTOK.
% Compiled module: VALID_NUM.
% READFITS: Now reading 1024 by 1024 array
% Compiled module: SXADDPAR.
IDL>

```
IDL> help, image
IMAGE           DOUBLE    = Array[1024, 1024]
IDL> window, xs=1024, ys=1024
IDL> tvscl, image
IDL> plot, image[512,*]
IDL>
```

Explore the image

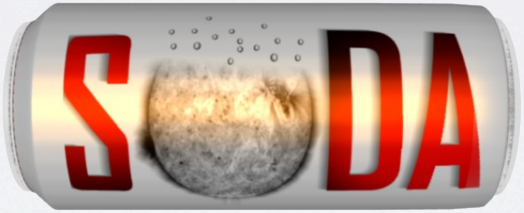




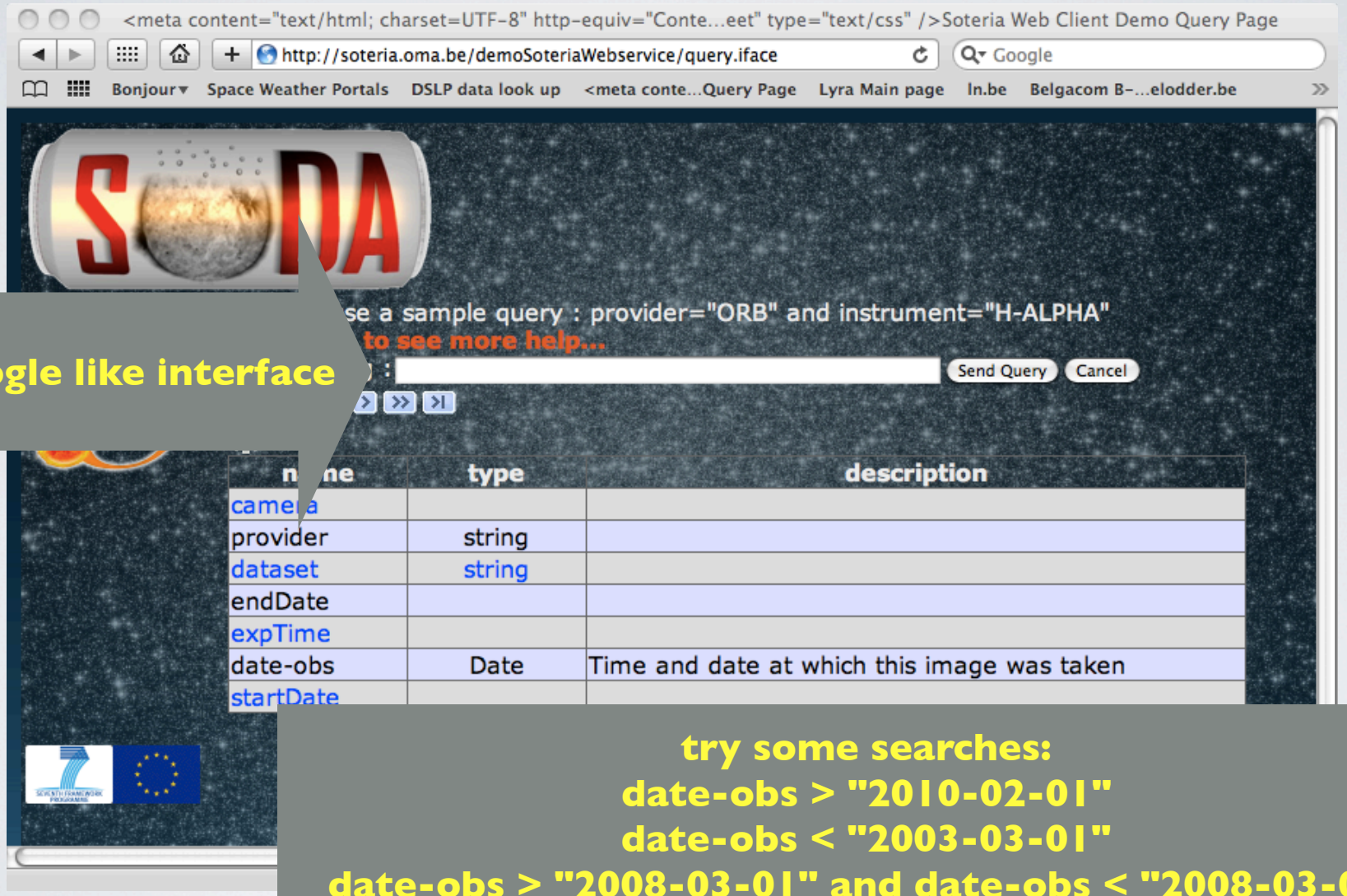


[GOOGLE ON "SWAP FITS HEADER"]

GETTING FITS FILES IS COMPLICATED



GOOGLE ON "SOTERIA ONLINE TOOLS"
GO TO SOTERIA DATA ARCHIVE



Google like interface

try some searches:
date-obs > "2010-02-01"
date-obs < "2003-03-01"
date-obs > "2008-03-01" and date-obs < "2008-03-02"
date-obs > "2009-03-03" and instrument="H-ALPHA"

YOUR TURN:

- download some USET Halpha or WHITE-LIGHT FITS files
- open them in IDL
- try to find sunspot (remember that last solar max was in the year ...)