

IRIS solar soft tree and UVSP database

From an e-mail by Sam Freeland on March 25, 2012:

Summary:

1. SSW system hooks for iris support were added and proto-iris tree now available for installation&upgrades via ssw_upgrade.pro
2. beta iris_uvsp_cat.pro is online via above \$SSW_IRIS - this provides sswidl api to Scott McIntosh's UVSP Mg II dbase, including meta-data (idl structure vector) and optionally spec data -> sswidl.

More Details:

1. iris available for installation & upgrades via canonical SSW SOP:
[this step only run by owner of local \$SSW tree; skip to 2. if not you]

```
IDL> ssw_upgrade,/iris,/spawn,/loud,/passive_ftp ; install/upgrade iris  
[ upgrade/install messages here (*see p.s.) ]
```

2. Once iris is available in local \$SSW, setup/startup per SSW SOP,
include "iris" in your \$SSW_INSTR instrument list;
then setup/startup a new sswidl session

; few cut&paste tests of iris_uvsp_cat.pro - let me know if you
get different answers. Scott's UVSP Mg II dbase web summary is:
http://download.hao.ucar.edu/pub/mscott/UVSP/UVSP_Cat.html
for compare & co-temporal use with parallel sswidl session.

2.1 meta data/catalog -> local sswidl session

```
IDL> iris_uvsp_cat,index,/get ; catalog meta data -> 'index' struct vect
```

; summarize 'index' contents from above

```
IDL> help,index & help,index,/str
```

```
INDEX          STRUCT    = -> <Anonymous> Array[73] <<< 1:1 Scott's www page
```

```
** Structure <214a004>, 25 tags, length=140, data length=136, refs=1:
```

```
  DATE_OBS      STRING    '11-MAR-1980 01:35:00'
```

```
  DURATION       LONG      10
```

```
  TARGET         STRING    'NOAA AR2316'
```

```
(... etc... )
```

```
  DATAURL       STRING    'http://download.hao.ucar.edu/pub/mscott/UVSP/savefiles/  
UVSP-v00402.sav.gz' <<< a few tags added by routine
```

```
  WAVEMIN        FLOAT     2801.00
```

```
  WAVEMAX        FLOAT     2802.50
```

; example sanity check meta-data structures vs. Scott's page

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```
IDL>info=get_infox
(index,'date_obs,experiment,experiment_string,target,nspec,wavemin,wavemax,dataurl'
)
IDL> more,[info(0:2),'... etc ...',last_nelem(info,3)] ; show 1st 3 & last 3 entries ('info')
11-MAR-1980 01:35:00 00402 MGSTO000.DEF NOAA AR2316 750.00 2801.00
2802.50 http://download.hao.ucar.edu/pub/mscott/UVSP/savefiles/UVSP-v00402.sav.gz
19-MAR-1980 20:14:00 00572 MGP.DEF NOAA AR2339 1500.00 2788.00
2791.00 http://download.hao.ucar.edu/pub/mscott/UVSP/savefiles/UVSP-v00572.sav.gz
31-MAR-1980 20:37:00 00949 MGSTO000.D02 NOAA AR2363 750.00 2800.00
2801.50 http://download.hao.ucar.edu/pub/mscott/UVSP/savefiles/UVSP-v00949.sav.gz
.. etc ...
27-FEB-1985 08:56:00 28249 MGSCAN.B09 NOAA AR4629 900.00 2794.00
2795.80 http://download.hao.ucar.edu/pub/mscott/UVSP/savefiles/UVSP-v28249.sav.gz
01-MAR-1985 12:56:00 28332 MGSCAN.B09 NOAA AR4629 900.00 2794.00
2795.80 http://download.hao.ucar.edu/pub/mscott/UVSP/savefiles/UVSP-v28332.sav.gz
21-APR-1985 14:06:00 30300 MGSCAN.B10 S/C 900.00 2794.00 2795.80
http://download.hao.ucar.edu/pub/mscott/UVSP/savefiles/UVSP-v30300.sav.gz
```

2.2 desired spectral data -> local sswidl

```
IDL> indexi=index[0] ; desired index (scalar); for any [i] < 72
IDL> iris_uvsp_cat,indexi,data,wavex ; Scott's hao->local session 'data'
IDL> help,indexi,data,wavex
INDEXI      STRUCT    = -> <Anonymous> Array[1] << meta
DATA        FLOAT     = Array[1, 1, 750] << UVSP scan data
WAVEX       FLOAT     = Array[750] << wavelength vector
```

Then, for example...

```
IDL> plot,wavex,reform(data),xtit='wavelength', title=get_infox
(indexi,'date_obs,experiment,experiment_string,target')
.. etc...
```

Routine/doc-header is:

http://sohowww.nascom.nasa.gov/solarsoft/iris/idl/lmsal/util/iris_uvsp_cat.pro

Regards,
Sam.

(*) re: ssw_upgrade - ignore any errors during the upgrade
of the ssw-gen branch which complain about illegal file
name .idlwave_catalog - these are functionally harmless and due
to recent nascom server change which now filters out "hidden" files;
those files and errors should go-away sometime Monday.
