Visibility object
Image object upgrade

Goals:
Integration of the visibility algorithms (hsi_vis_gen & hsi_vis_fwdfit & co) into the RHESSI mainstream software

Framework for managing multiple energy bands and time intervals

New features:
image algorithms, vis objects, vis files

New image algorithms

```cpp
o =hsi_image(
    im_time_interval =
    '20-feb-02 11:06:' + ['00','08'], $
    im_energy_binning = [6,12],
    image_alg = 'vis_fwdfit', pixel_size =1 )

image = o->getdata()

also possible: ‘mem_njit’
```
New image cubes

\[
o=\text{hsi\_image}(
    \text{im\_time\_interval} = \text{im\_energy\_binning} = [6,12,21],
    \text{image\_alg} = \text{vis\_fwdfit}',
    \text{pixel\_size} = 1)
\]

New visibility object

\[
o = \text{hsi\_visibility}(
    \text{vis\_time\_int} = \text{im\_energy\_binning} = [6,12,25]
\]

; this generates vis for eb index 1 and 2
\[
\text{vis1} = o->\text{getdata}(\text{tb\_index} = 0, \text{eb\_index} = 0)
\text{plot, vis1.u, vis1.v, psym = 2}
\]

; instantaneous:
\[
\text{vis2} = o->\text{getdata}(\text{tb\_index} = 0, \text{eb\_index} = 1)
\text{oplot, vis2.u, vis2.v, psym=3}
\]
New visibility files

o->set, vis_filename = ‘yourfile.fits’
o->write
o1 = hsi_image()
; very fast:
o1->panel_display,
    vis_filename = ‘yourfile.fits’

vis filename will be exportable to other systems

GUI extension

• Will follow once the command line objects are in place