

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

```
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=hsi_image(  
  im_time_interval =  
    '20-feb-02 11:06:' + ['00', '04', '08'], $  
  im_energy_binning = [6,12,21],  
  image_alg = 'vis_fwdfit',  
  pixel_size = 1 )
```

New visibility object

```
o = hsi_visibility( )  
o->set, vis_time_int =  
  '20-feb-02 11:' + ['06:00', '06:21', '06:31']  
o->set, im_energy_binning=[6,12, 25]  
  
; this generates vis for eb index 1 and 2  
vis1 = o->getdata( tb_index = 0, eb_index = 0 )  
plot, vis1.u, vis1.v, psym = 2  
  
; instantaneous:  
vis2= o->getdata( tb_index = 0, eb_index = 1 )  
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