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## MeerKAT L-band 6° PB: spherical harmonics model (SHM)

```
In [464]: # Load the necessary modules and the beam data for testing; this dataset is used for all 3
          tests.
          import sys; sys.path.append('../')
          from utilities import *
          from coeffs import *
          from sph_harm import *
          from gof import *

          #%load_ext autoreload
          %autoreload
          %matplotlib inline

          path = '/home/asad/data/meerkat/beam/holography/'
          d = fits.getdata(path+'1487813282_m017_256px_856MHz_1MHz_857channels_Jones.fits')
          freqs = range(856, 856+857)
```

### Spatial reconstruction, at 1350 MHz

```
In [7]: %autoreload
        #b = d[0,...]+1j*d[1,...]
        print b.shape

        idx = 494
        img = np.nan_to_num(b[:, :, idx, :, :])
        print freqs[idx]

        mod = SpheHarm(img, lmax=10, reco=True)
        gof_plot(abs(img), abs(mod.recons), abs(mod.coefs), vrange=[-20,0, -30,-15])

        (2, 2, 857, 256, 256)
        1350
```

