

*Högbom's Algorithm (Image-domain CLEAN):*

1. Make a copy the dirty image  $ID(l,m)$  called the residual image  $IR(l,m)$
2. Find the maximum pixel value and position of the maximum in the residual image  $IR(l,m)$
3. Subtract the PSF multiplied by the peak pixel value  $fmax$  and a gain factor  $g$  from the residual image  $IR(l,m)$  at the position of the peak.
4. Record the position and magnitude of the point source subtracted in a model, i.e.  $g \cdot fmax$
5. Go to (Step 2.), unless all remaining pixel values are below some user-specified threshold or the number of iterations have reached some user-specified limit.
6. Convolve the accumulated point source sky model with a restoring beam, termed the CLEAN beam (usually a Gaussian fitted to the main lobe of the dirty beam)
7. Add the remainder of the residual image  $IR(l,m)$  to the CLEAN image formed in (6.) to form the final restored image.

Result of first try

