

The parameters for reconstruction of the microtubule:

```
a_num=3;  
  
lambda=590;  
psize=13000/(100*1.5);  
NA=1.49;
```

Uncomment the following code to obtain a better reconstruction result (line 79, the pre-deconvolution)

```
%      noiseimage(:, :, ii, jj)=deconvlucy(noiseimage(:, :, ii, jj), ipsfde, 3);  
and replace (line 302)  
  
reconstructed_im=deconvlucy(reconstructed_im, psf_n, 4);  
with  
  
reconstructed_im=deconvlucy(reconstructed_im, psf_nb, 4);
```

The inverse matrix method provide a reliable phase estimation regardless of the pre-deconvolution step. While both the auto-correlation and cross-correlation methods fail without a pre-deconvolution step. (You can try it yourself and see the correlation result in each case)