Subject: Re: particle detection - a way to speed up things?
Posted by Dan Larson on Mon, 03 Dec 2007 16:30:26 GMT
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Hi,

Depending on the types of blobs you are detecting, FFT filtering can often work much faster for the initial segmentation. My approach for particle detection:
1. spatial bandpass to identify the regions of interest.
2. cut out the regions of interest to pass to the fitting routine (as David suggested).
3. find the center using the algorithm of choice.

This last step can be any number of things, but if you choose a centroid approach, these lines work well for me, although I think they are similar to what you have:

```
a=size(pic)
x_dim = a[1]
y_dim = a[2]
array=lindgen(x_dim, y_dim)
xarr=array mod x_dim
yarr=array/x_dim
sum=double(total(pic))
xcenter=total(xarr*pic)/sum
ycenter=total(yarr*pic)/sum
return, [xcenter, ycenter, sum]
end
```

For fourier filtering, I particulary like a routine from Crocker and Grier: www.physics.emory.edu/~weeks/idl/kit/bpass.pro

If you are interested in detecting and fitting diffraction-limited spots in a fluorescence microscope, I have software which is specifically designed for that purpose. I could send that to you directly if you want to try it out.

best,
dan