Subject: Re: IDL Average Value Graphs
Posted by Jeremy Bailin on Wed, 16 Jul 2008 18:18:50 GMT
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On Jul 15, 4:51 pm, andyb...@gmail.com wrote:
> Hello, I was wondering if IDL has any built-in methods for two similar
> things.
> 1. Basically cut the image like a pizza (for a variable number of
> slices) and average the values in each slice to create a plot of
> average pixel value as a function of angle
> 2. Do the same thing, but plot the average pixel value as a function
> of radius, (concentric circles).
>
> I was going to write my own method, but it would be complicated
> converting angled lines or circles into pixels.
>
> Thanks a lot, Andy

I don't know of anything built-in, but I've written similar sorts of things quite a lot using HISTOGRAM, and it's pretty straight-forward... here's a (UNTESTED!) hack at it, assuming that your image is called "image", is centered at pixel x0,y0, and you want n_azimuth pie slices and radial bins of width dr:

```
indeximage=array_indices(image, lindgen(n_elements(image)))
pixelradii = sqrt( (indeximage[0,*]-x0)^2 + (indeximage[1,*]-y0)^2 )
pixelazimuth = atan(indeximage[1,*], indeximage[0,*])

radhist = histogram(pixelradii, min=0, bin=dr, reverse_indices=radri)
nrad=n_elements(radhist)
azhist = histogram(pixelazimuth, min=0, bin=2.*!pi/n_azimuth,
reverse_indices=azri)
naz=n_elements(azhist)

radial_mean = fltarr(nrad)
azimuthal_mean = fltarr(naz)
for i=0l,nrad-1 do if radhist[i] gt 0 then radial_mean[i] =
mean(image[radri[radri[i]:radri[i+1]-1]])
for i=0l,naz=1 do if azhist[i] gt 0 then azimuthal_mean[i] =
mean(image[azri[azri[i]:azri[i+1]-1]])
```

-Jeremy.

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