Subject: Re: Region inside the CONTOUR
Posted by btt on Tue, 02 Aug 2005 13:13:37 GMT
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James wrote:
> Hi !
>
> Can anyone help me with a problem ? There is a ROI in the image for which
> I want to get some statistics. Basically what are needed: total flux of the
> area inside the ROI and the parameters of the ellipse, fitted to that
> region.
> Is there ant robust way of doing that ?
>
> I have several ROIs in the image and this is how I define them:
>
> .....
>
> contour, im1, PATH_XY=xy, PATH_INFO=info, LEVELS=[3*sigma],
> PATH_DATA_COORDS=1
>
> data_index = WHERE(info(*).N GT 15) ; ---- select regions larger than
> 15 pixels
> data_total = size (data_index,/N_ELEMENTS)
> my_roi = PTRARR (data_total, /ALLOCATE_HEAP)
>
> for i=0L, data_total-1 do begin
> s = [indgen(info(data_index[i]).N),0]
> *my_roi[i] = xy(*,info(data_index[i]).offset + s)
> endfor
>

Hi,

First is a heads up about contour... the N field of PATH_INFO structure is the number of vertices that make up the contour. From your description, it looks like you are assuming that N describes the number of pixels contained within the contour. This will be a gothcha unless you want to use the number of vertices as a size proxy.

This is a great place to start regarding the ellipse fitting, etc. You may find that all of your questions are answered there.

http://www.dfanning.com/documents/tips.html#ImageProcessing

The IDL Image Processing User Guide is very helpful, too.

Lastly, for most image and roi processing I have graviated away from CONTOUR toward the following (roughly outlined) path...

Segment the image into foreground and background

Use LABEL_REGION to 'colorize' the foreground features. Be aware that LABEL_REGION treats image edge pixels as background, so depending upon you needs you might want to pad the image with a border of pixels.

Depending upon you needs you could use IMAGE_STATISTICS if that suits your needs or...

Use HISTOGRAM and REVERSE_INDICES to extract the ROIs (you can filter based upon number of pixels at this time, retrieve the flux of original pixels, etc.)

Convert the pixels indices to XY coords. Use one of David's boundary finding routines if you prefer to have the boundary instead.

Pass the coords to IDLanROI as a convenient place holder. It has a number useful methods... to which you can add your own.

You kind of have to fill in the details - but that seems to work quite well for me.

Cheers,
Ben
