Subject: IDLanROI Confusion
Posted by davidf on Wed, 04 Apr 2001 20:33:17 GMT
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Folks,

Alright. I admit it. I don't get it. :-(

I want to use the IDLanROI object to calculate
the perimeter, centroid, and area of a region of interest.
But I'm not sure the values can be trusted. Here is an
example.

```
 ********************************************************** ******
; Create a square window:

   Window, XSize=400, YSize=400

; Draw a circle of radius 50 pixels in the center of the window:

   TVCircle, 50, 200, 200, Color=255, /Fill

; Take a snap shot of the window:

   snap = TVRD()

; Contour the circle:

   IsoContour, snap, C_Value=255, connectivity, vertices

; Create an IDLanROI object:

   o = Obj_New('IDLanROI', connectivity[0,*], connectivity[1,*])

; Calculate geometry:

   ok = o->ComputeGeometry(Perimeter=p, Centroid=c, Area=a)

; Calculate perimeter, area of circle:

   radius = 50.0
   pcircle = 2 * !Pi * radius
   acircle = !Pi * radius^2

; Print it out, with expected values:

   Print, 'Calculated Perimeter: ', p
   Print, 'Expected Perimeter:   ', pcircle
```

```
   Print, 'Discrepancy in Perimeter (percent): ', p / pcircle * 100., '%'
   Print, ""
   Print, 'Calculated Area: ', a
   Print, 'Expected Area:   ', acircle
   Print, 'Discrepancy in Area (percent): ', a / acircle * 100., '%'
   Print, ""
   Print, 'Calculated Centroid: ', c[0:1]
   Print, 'Expected Centroid: ', 200, 200
 ********************************************************** ***************
```

Here are the results. 15% error in the perimeter is pretty large!

Calculated Perimeter: 362.61017
Expected Perimeter: 314.159
Discrepancy in Perimeter (percent): 115.42240%

Calculated Area: 7691.5000
Expected Area: 7853.98
Discrepancy in Area (percent): 97.931216%

Calculated Centroid: 199.50135 200.25225
Expected Centroid: 200 200

Am I doing something wrong, or should I believe these numbers?
The same exercise with a square region produced accurate numbers.

My expected ROI's are not squares or circles, but they are
much closer to circles than squares.

Cheers,

David

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