Subject: Re: Understanding IDLanROI
Posted by guillermo.castilla.ca on Wed, 27 Oct 2010 15:44:50 GMT
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On Oct 25, 1:17 pm, Matt <sav...@nsidc.org> wrote:
> Is this the preferred method to determine the vertex's
> direction? internal vs external?

The below function will tell you whether a ring (i.e., a closed chain
of vertices defined by their x y coordinates) is a hole (i.e., is
ordered counterclockwise). It is based on the same principle than
Kelly's trick, but it uses only the first 3 vertices of the ring
(which form a triangle from which area can be computed), and therefore
it should be a little more efficient than the other method.

```
;+
; :Description: Determines whether a list of vertices forming a ring
is a hole
; (i.e., is ordered counterclockwise) or not (and then is clockwise)
;
; :Params:
;    xy : in, required, type="dblarr(2\, nVertices)"
;
; :Returns: 1, if the ring is a hole; 0, otherwise
; :Categories: IDLffShape
;-
FUNCTION ishole, xy

dims = SIZE(xy, /DIMENSIONS)
IF dims[0] NE 2 THEN MESSAGE, 'The xy array must have two columns'
IF dims[1] LE 2 THEN MESSAGE, 'xy must contain at least three
vertices'

answer = (xy[0,2] - xy[0,0]) * (xy[1,1] - xy[1,0]) - $
(xy[0,1] - xy[0,0]) * (xy[1,2] - xy[1,0]) LT 0 ? 1 : 0

RETURN, answer

END
```

Cheers

Guillermo