URL: http://cxc.harvard.edu/ciao3.4/reginsideregion.html
Last modified: December 2006

AHELP for CIAO 3.4

regInsideRegion

Context: region

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Synopsis

Is a point (or set of points) inside a region?

Syntax

```
Short_Type regInsideRegion( Region_Type Region, Double_Type X,
Double_Type Y )
Array_Type regInsideRegion( Region_Type Region, Array_Type Xarr,
Array_Type Yarr )
```

Description

The regInsideRegion routine queries a region to find out if a point (or an array of points) is inside the region or not. 1 is returned for yes, and 0 if no. The input values are a CIAO region variable (as returned from regParse), and the positions to query which can be either a single X, Y position or two arrays of positions, Xarray and Yarray.

Example 1

```
chips> region("region")
chips> reg = regParse("circle(10,10,4)")
chips> flag = regInsideRegion( reg, 12, 11 )
chips> print(flag)
1
```

Here we use the regInsideRegion() routine to find out whether the point at (12,11) is inside the circle centered at (10,10) with a radius of 4 pixels. The answer is 1, since it is.

Example 2

```
chips> xc = [ 10, 16, 12 ]
chips> yc = [ 11, -4, 8 ]
chips> flag = regInsideRegion( reg, xc, yc )
```

```
chips> writeascii( stdout, xc, yc, flag )
10 11 1
16 −4 0
12 8 1
chips> i = where( flag )
chips> xx = xc[i]
chips> yy = yc[i]
chips> writeascii( stdout, xx, yy )
10 11
12 8
```

Here we have found that the points (10,11) and (12,8) are inside the region, but that (16,−4) is not. The where() routine is then used to show how you can extract from the arrays only those points that lie inside the region. If the where() finction had been written

```
where( flag == 0 )
```

then it would have selected those points that lie outside the region.

Bugs

See the bugs page for the region library on the CIAO website for an up−to−date listing of known bugs.

See Also

modules

region

region

regarea, regextent, reginsideregion, regparse, regprintregion, regregionstring

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