
Subject: Center of mess

Posted by [Thomas Launey](#) on Tue, 05 Aug 2003 03:54:52 GMT

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Hello,

I am trying to calculate the centroid of a small object in an image.

The procedure that I wrote is very standard; I found the same one in David Fanning's archive of this NG and in IDLastro. However, the result that I get does not seem right. In the code below, the central pixel of a 5x5 image is the peak so I would expect the centroid to be at (2.5,2.5) but the result is [2.0,2.0]. I agree that pixel "2" is the correct answer but I would expect that the correct coordinates should be the center of pixel "2" (i.e.: [2.5,2.5]). I am using this centroid function to refine peak coordinates in a 2D cross-correlation so I need this 0.5 pixel precision.

It may be just another case of a newbie getting confused by intervals/center of bin in a distribution but some enlightenment about how IDL consider pixel coordinates would be most welcome :-)

Thomas

```
pro CenterOfMess ;*** calculate the center of mass of a 2D image
```

```
Array=[[1,1,1,1,1],[1,1,1,1,1],[1,1,100,1,1],$
```

```
  [1,1,1,1,1],[1,1,1,1,1]]
```

```
Sizarr=size(array,/dim)
```

```
totalarr=total(array,/double)
```

```
;*** collapse the array on Y axis
```

```
Y=Total(total(array,1,/double)*(dindgen(sizarr[1])))/totalarr
```

```
;*** collapse the array on X axis
```

```
X=Total(total(array,2,/double)*(dindgen(sizarr[0])))/totalarr
```

```
;*** reserve some space above the highest peak
```

```
Zmax=max(array,min=Zmin)*1.1
```

```
window, /free, Xsize=400, Ysize=400,title="Center of mess"
```

```
loadct,12
```

```
surface, array, Zrange=[Zmin,Zmax], /lego, /save,$
```

```
  Xstyle=1, Ystyle=1, Az=45, Ax=30, color=255
```

```
plots,[X,X],[Y,Y],[array[floor(X),floor(Y)],zmax],$
```

```
  /T3D, thick=3, color=200
```

```
Print,"X: ",X," Y: ",Y
```

```
End
```

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