
Subject: Extracting subregions from a data cube
Posted by [Chris\[5\]](#) on Fri, 20 Jun 2008 22:03:24 GMT
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Hi everyone,

I want to extract a subregion of a data cube. The boundary of the region would be an isophotal surface (the value of the contour level would be something like three sigma above the background), and I have a voxel index that lies inside this boundary (to select only one of possibly several isophotal clumps).

My knowledge of 3D image analysis is pretty sparse, but I suspect there may be some built in IDL routines that would get the job done. I've looked at ISOSURFACE, but that seems to return boundary locations (instead of the interior voxels). Off the top of my head, I wouldn't know how to take this output and 1) select only the isophotal 'clump' that interests me, or 2) calculate whether a given voxel is inside or outside that boundary.

Any ideas?

Subject: Re: Extracting subregions from a data cube
Posted by [Chris\[5\]](#) on Tue, 24 Jun 2008 08:47:20 GMT
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On Jun 20, 12:03 pm, Chris <cnb4s...@gmail.com> wrote:

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> region would be an isophotal surface (the value of the contour level
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> inside or outside that boundary.
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> Any ideas?

I've figured out a solution -- for the sake of the forum's completeness, I'll answer my own question:

To create a mask for a 3D ROI which contains a seed voxel and the neighboring region above some threshold, do something like

```
binary=(cube ge threshold)
groups=label_region(binary,/all_neighbors)
index=groups[seed]
return,where(groups eq index)
```
