Subject: Re: XROI - how to invoke region growing
Posted by Ted Cary on Fri, 08 Feb 2002 21:44:21 GMT
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Hello Dr. Mueller,

I'll have to ask you to excuse my ignorance as well, but to help with this I need to know exactly what you mean by "region growing." I don't have experience with XROI or CT scans, but I did not find any mention of the region growing function you are trying to invoke during a quick reading of the XROI help files. If something like this exists, I could use it too. I'm not sure if region growing has a special meaning in your field, but here are my suggestions, for what they're worth:

If you want to simply scale the regions, you can call scale methods on them individually, since they are just IDLgrROI objects. It looks to me as though you can get them using the REGIONS_OUT keyword to XROI, scale them all, then use the scaled ROIs as the REGIONS_IN in another XROI call if you want. Of course if the regions are concave, then the margins of your new "grown" regions might actually intersect the margins of the smaller regions from which they were grown, which might not be what you want at all, since the grown region won't contain all of the points in the smaller region.

If instead you want to "expand" or dilate the regions, maybe POLYFILLV the ROI vertices and use DILATE. The array results will not be in a form you can put back into an IDLgrROI, since there will be no margin vertices identified nor a connectivity array, but they will allow you to extract data from your scans easily, and you can continue to DILATE or ERODE the regions at will. Unfortunately, unless you "hull" the interior points to get the connectivity array and the margin vertices, you won't be able to use XROI on the regions you've grown. This method will work fine if all you want to do is 1) Draw ROIs in XROI, 2) "Grow" or "shrink" them, and 3) Extract data from their interiors. You can even display the new margins if you want by finding the contours of the interiors--you'll know every point on the border in no particular order, but not every vertex. I do this kind of thing all the time, and it should not require any or much modification to those 50 pages of XROI code. Hope this helps.

"Dr. Stefan P. Mueller" wrote:

> Hi,
>
> I am new to IDL, so please excuse my ignorance:
>
> XROI looks like a good starting point for what I am planning to do:
> define a region-of-interest on a CT scan by region growing (to segment
> reproducible a lesion) and then go on to sovle my real problem.

> I just installed the demo for IDL 5.5 and ran XROI. I am able to
> display the CT Image. I can manually define all sorts of ROI's, and I
> can get statistics or a histogram. I have been unable, however, to
> figure out how to invoke the region growing function. Yes, I looked at
> the dokumentation too.
> As a beginner, trying to understand the code (probably over 50 pages)
> is daunting to me...
>
> Does anybody know what I have to do?
>
> Thanks a lot!
>
> Stefan
