Subject: Re: Number of points inside a contour curve
Posted by David Fanning on Wed, 20 Dec 2006 14:58:37 GMT
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burkina writes:

> What I need to do is basically simple, I guess, but I can't find an
> easy way to do that.
> I have an array of two parameters, let's call them x and y, each pair a
> couple of measures taken simultaneously. I need to:
>
> -Plot them in the x and y axis (at least this one is trivial!)
>
> -Produce a density plot, i.e. divide the x-y space in discrete bins and
> assign the number of points falling in each bin to that bin (This
> should be done by hist_2D, but the results are fairly disappointing. A
> better work is done by histogram_2d. Do you have any comments?)

I note that HISTOGRAM_2D uses embedded FOR loops and that HIST_2D
is written by JD Smith. That's enough for me. :-)

> -Plot confidence contour levels on that density plot, i.e. a contour at
> the level where, say, 90% of points are contained. In other words, you
> can use the normal contour IDL procedure, but you must find a way to
> count all points lying inside this contour, in order to set the level
> for the contour plot. The procedure should be able to find the
> iso-count curve which encompass 90% of the total points.
>
> So... I'm not sure I'm doing the right/best thing for point 2
> (hist_2d/histogram_2d) and have no idea how to do point 3. However,
> this problem seems to me quite common, because it's a way to find
> statistical confidence level for a distribution of two parameters.

If you did a HISTOGRAM on the result of HIST_2D, then I should
think you could find the level where a cumulative total of
the HISTOGRAM result was 90% of the total (VALUE_LOCATE
might be handy here). I'm mostly thinking out loud. There
seem to be a few details missing here....But I think this
might be a promising direction. :-)

Cheers,

David
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Sepore ma de ni thui. ("Perhaps thou speakest truth.")