Subject: Re: Ellipse fitting?
Posted by David Fanning on Tue, 12 May 2009 21:18:03 GMT
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robparker23@googlemail.com writes:

> I was hoping that someone could help with this.
>
> I have a satellite footprint which is more or less elliptical. I have
> the 4 coordinates of the top, bottom, left and right-most points and
> want to fit an ellipse to these 4 coordinates.
>
> I've put a diagram here to explain: http://img217.imageshack.us/img217/5048/ellipse.png
>
> I've googled this quite a bit and there seem to be lots of ways to fit
> ellipses to complicated data sets using techniques like optimal
> estimation but I can't find an easy/quick way of doing it. To do this
> manually I think I could just take the equation for an ellipse and
> adjust it to fit but I need to do this automatically for a large
> number of points where the shape of the ellipse will change depending
> on the location.
>
> This gets slightly more complicated (doesn't it always) as the shape
> may not quite be an ellipse due to the geometry of the satellite (it
> might have one side slightly "fatter" than the other) and it might be
> titled at an angle (so not horizontal).
>
> Does IDL have any ellipse fitting capabilities built in or is anyone
> familar with a solution that might work?

You might try Fit_Ellipse:

  http://www.dfanning.com/programs/fit_ellipse.pro

The purpose of this program was to facilitate "blob analysis",
but you might be able to convert it to your purpose:

  http://www.dfanning.com/ip_tips/blobanalysis.html

I guess a satellite footprint is more or less a blob. :-)

Cheers,

David

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David Fanning, Ph.D.
Coyote's Guide to IDL Programming (www.dfanning.com)

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