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Subject: Re: Least square fitting

Posted by [Marshall Perrin](#) on Tue, 20 May 2008 21:48:34 GMT

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MichaelT <michael.theusner@googlemail.com> wrote:

> Hi all,

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> I have a problem with a rather complicated function depending on four  
> parameters which I try to find using least square fitting and I don't  
> know exactly how to do it.

>

> The basic problem is the following:

> I have an astronomical image of a star field and try to relate the sky  
> coordinates (right ascension, declination) of the stars to the pixel  
> coordinates (x, y).

So if you truly wish to know how to properly solve this particular mathematical problem, I will leave that to other wiser experts to answer.

If, however, what you really want is just to know the astrometric solution for your data, you may be interested to know about Astrometry.net, a research project by David Hogg at NYU and collaborators which intends to solve this particular problem once and for all, for everyone. You feed their web service arbitrary astronomical images, and it hands back the astrometric solution. I've not tried it for images as wide-field as you have, but I suspect it will work just fine. See <http://astrometry.net/> for more info.

- Marshall

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