Subject: Re: Newbie's question
Posted by James Kuyper on Fri, 21 Oct 2005 12:55:53 GMT
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JD Smith wrote:
> On Thu, 20 Oct 2005 13:18:52 -0700, ChiChiRuiz@gmail.com wrote:
>
>> Poly_fit doesn't really give me what I need. I don't need the
>> coefficients of a quadratic equation, I want to know the best fit of the
>> scatter plot to some power of x. I know it's not exactly power square,
>> but it should be in that neighborhood. Even if I shift all data to the
>> positive axis, i.e. y = a* (x-x0)^b, any x values less than x0 is still
>> considered "negative". I don't know what else...maybe I'll try change of
>> variable or something... thank you for your help.
>
> Fitting to a single power law is a time honored tradition in many of
> the precision-limited fields of physics (e.g. astronomy).

True, but following that tradition is only appropriate when there's a
specific reason to expect a power law of some kind.

> ... The typical
> approach is to fit a straight line to the log/log representation of
> the data. The slope of the line is the exponent b. If your data have
> negative values by artificial choice (e.g. time offset, etc.) simply
> shift that choice to make them positive.

The key point is that you need to know the appropriate amount to shift
them. If the fact that you have negative numbers is "artificial", that
implies that you may know the amount that needs to be added. Otherwise,
adding an arbitrary amount could produce meaningless results. However,
making a fit to the form y = a*(x-x0)^b, with x0 constrained to be less
than the minimum value of x, could be a suitable approach.