Subject: Re: Newbie's question
Posted by James Kuyper on Thu, 20 Oct 2005 22:08:33 GMT
View Forum Message <> Reply to Message

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.

What leads you to believe that y is some power of x? Is it simply a guess based upon the shape of the curve, or do you have some theoretical reason for expecting a power relationship?

Theories that lead to a power-law relationship without fixing the power to be a specific rational number generally apply only to data where the dependent variable is guaranteed to be positive. The numerical problems you have trying to fit such a relationship to data where x is sometimes negative are directly related to the reasons why theories tend not to imply the existence of such relationships.

For that same reason, if you're merely guessing at what the shape of the curve is, rather than getting it from a theory, I suspect that your guess is a bad one.

One possibility: the relationship isn't y = a*x^b; it's actually y = a*|x|^b. I've seen situations where that is a reasonable model. That will avoid the problems you've been having.

This is really a scientific problem, not a numerical one; figure out the right model for your data and the curve-fitting routines shouldn't have any problem fitting it to your data.