Subject: Re: Question about CURVEFIT function
Posted by Paul Van Delst[1] on Thu, 29 Aug 2013 14:45:56 GMT
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Here's a place to start:
http://en.wikipedia.org/wiki/Non-linear_least_squares

IDL docs tell me CURVEFIT uses a gradient expansion method. Directly
from the docs:

PROCEDURE:
Copied from "CURFIT", least squares fit to a non-linear
function, pages 237-239, Bevington, Data Reduction and Error
Analysis for the Physical Sciences. This is adapted from:
Marquardt, "An Algorithm for Least-Squares Estimation of
Nonlinear Parameters", J. Soc. Ind. Appl. Math., Vol 11,
no. 2, pp. 431-441, June, 1963.

"This method is the Gradient-expansion algorithm which
combines the best features of the gradient search with
the method of linearizing the fitting function."

Iterations are performed until the chi square changes by
only TOL or until ITMAX iterations have been performed.

The initial guess of the parameter values should be
as close to the actual values as possible or the solution
may not converge.

On 08/29/13 09:14, fd_luni@mail.com wrote:
> Hi all
>
> I have some questions about the CURVEFIT function. I didn't use any
> programming language before and there are some things in this
> function that I don't understand.
>
> The keyword TOL which corresponds to tolerance what actually do in
> the algorithm?
>
> When you specifies the number of iterations what does this means?
> What is the role of this keyword?
>
> Finally, the CURVEFIT function how does it works? For instance, It
> uses the derivatives of the points?
>
> Many Thanks Mar
>