Subject: model fitting
Posted by michael.asten on Tue, 28 Sep 2004 07:48:56 GMT
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I am doing parametric inversion observed data (typically 30 data points)to a model (typically 8 significant parameters), which I guess can also be called curve fitting. Noted the many recommendations to Craig Markwardts mpfit (thanks to all those who have blazed a trail here).
Specific issues for me are
(1) the "curve" to be fitted resembles a distorted Jo bessel function, ie has positives, negatives, crossovers, multiple maxima and minima. The positions of crossovers and maxima/minima on the x-axis carries most of the physical information controlling the best-fit parameters sought.
(2) the observed values of the curve have a some systematic (non-gaussian) errors or biasses, hence I wonder if a minimum deviation criterion (L1 norm) would be more stable than least squares. I recall using software with SVD curvefitting algorithms decades ago which were quite unstable on data of type(1) above having crossovers.

Any general thoughts from the experts out there relating to these issues? Regarding (2) above, is there a variant of mpfit.pro (or the idl-supplied curvefit.pro) which allows for the L1 norm?

Warmest thanks for any pointers.

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