
Subject: Re: What is the difference between 'curvefit', 'lmfit' and 'svdfit' procedure?
Posted by [Paul Van Delst\[1\]](#) on Thu, 08 Mar 2007 15:53:23 GMT

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Wox wrote:

> On 07 Mar 2007 21:07:36 -0500, Craig Markwardt
> <craigmnet@REMOVEcow.physics.wisc.edu> wrote:
>
> <snip>
>> CURVEFIT - poor man's non-linear least squares original to IDL, based
>> on gradient expansion and not really robust.
> <snip>
>
> I always thought CURVEFIT was using Levenberg-Marquardt. Check the use
> of lambda, which allows the alternation between gradient and expansion
> method (which is the Levenberg-Marquardt as far as I know).

Regardless, CURVEFIT is nowhere near as robust as Craig's replacement for it. A while back I used CURVEFIT on some data I was trying to fit (infrared sea surface emissivity that depended on frequency, wind speed, and view angle) and, when I did get convergence, it took forever. Using MPFIT (not changing anything else related to the data I was fitting), I **always** got convergence and it ran orders of magnitude faster.

Single data point anecdotal evidence I know, but there you go.

cheers,

paulv

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Paul van Delst Ride lots.
CIMSS @ NOAA/NCEP/EMC

Eddy Merckx
