Subject: Re: Gamma Variate Curve Fitting
Posted by Paul Van Delst[1] on Mon, 16 Jun 2003 17:07:11 GMT
View Forum Message <> Reply to Message

Kate wrote:
>
> I have been trying for a week now to fit data to a gamma variate curve
> using the curve fitting algorithms built into IDL. Every time I use
> CurveFit it tells me my data does not converge and every time I use
> SVDFIT my program crashes and exits out of IDL automatically! I made
> sure that my inital guesses were VERY close to the actual test data I
> am using and I'm still stuck. Does anyone have any experience fitting
> this type of non-linear curve using IDL? If I was using anything else
> I would probably use the simplex method but there doesnt' seem to be a
> downhill simplex curve fitting algorithm in IDL. HELP!!!

Go to Craig Markwardt's website and download his MPFIT fitting library:
http://cow.physics.wisc.edu/~craigm/idl/fitting.html

I had a similar problem recently (and I was just fitting a relatively simple polynomial [non-integer exponents] but I tried all the usual suspects) and when I simply replaced IDL's CURVEFIT with Craig's MPCURVEFIT all my problems went away...literally. Where CURVEFIT didn't converge, the MPFIT equivalent did. And where CURVEFIT did converge, the MPFIT equivalent gave me a better fit! And when I really screwed up the initial fit coefficient guesses and MPCURVEFIT didn't converge, I got meaningful error output that allowed me to fix the problem.

If I sound gushy about the MPFIT stuff it's because I am - using that code saved me monthS of work, and I'm not exaggerating.

I hereby nominate Craig and his software for a special award for services to the school...I mean, the IDL community. :o)

paulv

--
Paul van Delst
CIMSS @ NOAA/NCEP/EMC
Ph: (301)763-8000 x7748
Fax:(301)763-8545