Subject: mpfit question
Posted by Russell[1] on Tue, 20 Dec 2011 17:02:27 GMT
View Forum Message <> Reply to Message

I searched these pages thinking this has been raised. I'm sure this is my mistake or misunderstanding, but if anyone has advice I'm all ears.

I'm using mpfit.pro as part of a multi-stage fitting routine to model the spectra of galaxies (1) brute-force fit over a grid of models, (2) mpfit to refine that solution so it's "off-the-grid", and (3) run an MCMC to marginalize over a few parameters --- the initial conditions of each stage are taken from the previous stage. I know certain parameters must be constrained within a range (for example, the distance cannot be negative), so I'm using that in the parinfo structure. For most galaxies this procedure works perfectly, but occasionally, I run into a problem child where the covariance matrix as returned by mpfit has a column (and row) of all 0.0. I'm using this covariance matrix as initial proposal distribution for the MCMC, so things go haywire when this happens. I suspect the column/row of zeroes is because that parameter hit the boundary or isn't properly varied in the LM-fitting. Does anyone have any experience with this? Will the parameters GTOL, XTOL, FTOL help? Or is this a problem with the entries in the parinfo structure (such as STEP or RELSTEP)?

Thanks!
Russell