Subject: maximum likelihood fitting with prior
Posted by Russell[1] on Mon, 15 Apr 2013 13:48:10 GMT
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Err, I guess I want maximum posterior fitting. I have some data to which I want to fit a very complex and highly non-linear model, but I have some priors on the parameters of the model. I used to have no priors (err, I guess flat priors) and in which case the problem was a simple "chi-2", and I was successfully using C. Markwardt's mpfit. It worked mostly great, but I had to do some experimentation to ensure I was avoiding local extrema. However, with the prior I cannot write a function that returns an array of the form:

(data-model)/error

because the thing I want to maximize isn't a simple likelihood (or minimize a chi2). So, I need a more general optimizing routine (or a way of tricking mpfit to work with the chi2 not the residual). Yes, I'm aware of things like powell and amoeba in IDL's normal distro, but those don't work very well.

Any advice?

I'm gonna give tnmin from CM a try, but I thought to ask anyway...

Thanks!
Russell