Subject: Re: How to speed up or remove this FOR loop
Posted by wlandsman on Fri, 21 Jan 2011 16:02:35 GMT
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On Friday, January 14, 2011 4:00:25 AM UTC-5, johan wrote:
> I do have 768 profiles, each 24 pixels long, each to whom I want to
> fit a Gaussain and getting the mean and SD. I am using the following
> FOR loop calling mpfitexpr. It works fine but it takes forever to
> complete!
>
> expr = 'P[0] + GAUSS1(X, P[1:3])'
>
> t = indgen(24)
> start = [20.D, 10, 2., 1000.]
>
> for i=0,(size(profiles,/dim))[1]-1 do begin
>   r = profiles[*,i]
>   result = mpfitexpr(expr, t, r, 1, start, /QUIET)
> endfor
>

Before I had suggested using MPFITFUN instead of MPFITEXPR, which should provide a modest speedup since one doesn't need an indirect function evaluation. Now I am going to suggest not to use the MPFIT* routines at all, but to instead use the ITTVIS supplied GAUSSFIT(). The MPFIT* routines are more robust, with more checking for overflows, NANs and more user diagnostics, but for simple Gaussian fits the overhead for GAUSSFIT() is *much* lower. (A factor of 4 speedup is possible.) --Wayne