Subject: Re: very fast spline interp function for heavy oversampling?
Posted by Martin Schultz on Wed, 21 Jun 2000 07:00:00 GMT
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"R.G. Stockwell" wrote:
>
> Greetings,
>
> I have a situation where I take a time series, and need to interpolate the
> function to many more samples.
> i.e. original time index =
> and I need samples at new time index =
> .
>
> The canned IDL routine spline() works great, but is slow. Unfortunately, I
> don't have time to rewrite the interpolation to something more efficient.
>
> I don't want to use any linear scheme to interpolate, since I want a smooth
> function (i.e. smooth "derivatives") around the data points. I would guess
> that
> it would be easy to efficiently calculate this interp with spline, perhaps
> some vectorization could be put into the function. Or perhaps an
> "upsample" function would work, but modifications would be needed as the
> time series is not evenly sampled.
>
> Are there any user routines out there that can do this interpolation
> efficiently?
>
> Cheers,
> bob

Well, if you don't have time to solve the problem, then you must have
enough
time to wait for the results ;-) But, seriously, as far as I
understand, IDL
uses the Numeical Recipes SPLINE functions, and there are two related
functions which operate in two steps:
SPL_INIT and SPL_INTERP
Since SPL_INIT is executed only once with your coarse data set as input,
this might be
what you are looking for. See the online help for more info.

Martin

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[[[[[[[[[[
[[Dr. Martin Schultz Max-Planck-Institut fuer Meteorologie [[
[[Bundesstr. 55, 20146 Hamburg [[

[[phone: +49 40 41173-308 [[
[[fax: +49 40 41173-298 [[
[[martin.schultz@dkrz.de [[
[[[[[[[[[[