Subject: Re: Reverse interpolation?
Posted by Martin Schultz on Thu, 17 Aug 2000 07:00:00 GMT
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Craig Markwardt wrote:
 Martin Schultz <martin.schultz@dkrz.de> writes:
>
 Craig wrote:
>
>>
> ...
           newxx = Spline(oldy, oldx, newy, 5.)
>>
> ...
  If you are trying to match a lot of values, then I agree that the
> spline interpolation is one of the best solutions. However, I have
> had bad experiences with the SPLINE function. It tends to have
> problems when the points are too far apart, and it's also pretty slow.
> I found the Numerical Recipes version of spline interpolation to be
> much better (built in functions SPL_INTERP and SPL_INIT).
>
 If v1 is vector of values sampled at original altitudes a1, and you
  want to resample at new altitudes a2, then you do something like this:
>
> v2 = spl_interp(a1, v1, spl_init(a1, v1), a2)
>
> Now v2 has the newly sampled values. In principle a2 can be one value
> so even if you want a single value the spline interpolation can be
> useful, and even pretty fast.
I had looked into SPL_INTERP and SPL_INIT, but I found the
problem was that it does not allow for "smoothing" (more
correctly: controlling "the amount of tension that is applied to
the curve"). I certainly like the idea of controllin the
endpoints (which you can do only in SPL_INTERP). Are you aware of
a solution that can do both?
Martin
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