Subject: Sliding scale interpolation
Posted by Paul van Delst on Tue, 06 Jun 2000 07:00:00 GMT
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Hi there,

I want to do (what I call) "sliding scale" linear interpolation and am trolling for hints on how to do it.

I have some data (complex refractive index of water) which is mostly smooth but punctuated with some higher resolution absorption features. What I would like to do would be to linearly interpolate the data with a relatively large x-spacing in the smooth, low resolution regions but increase the data spacing in the high resolution regions. The second derivative of the function provides definitions for those regions (e.g. for smooth regions d2y/dx2 ~ 0).

I was wondering if anyone has already done or seen info on something like this? I would like to somehow dampen the ability of the interpolation spacing change so that it doesn't change *only* in response to the second derivative (which is rather noisy in places).

Any hints, comments, suggestions appreciated.

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