Subject: Re: Piecewise curve fitting in idl
Posted by jameskuyper on Thu, 31 Jul 2008 12:39:09 GMT
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d.poreh@gmail.com wrote:
> On Jul 31, 1:21 pm, Wox <nom...@hotmail.com> wrote:
>> On Thu, 31 Jul 2008 03:30:22 -0700 (PDT), d.po...@gmail.com wrote:
>>> Folks
>>> How we can do the piecewise curve fitting in idl. Say we have an array
>>> that this array has got 2 or 3 trends in data and we want to fit a
>>> liner curve for each trends. In MATLAB curve fitting tool, we can
>>> easily exclude or include a part of data and then fit a curve. How we
>>> can do this in IDL
>>> Cheers
>>> Dave
>> Euhm, just do the fitting on the different parts? Or do you mean
>> fitting with a piecewise polynomial (i.e. spline: see e.g. IMSL_BSLSQ
>> or IMSL_CONLSQ)
>
> just doing the fitting on the difrent part. how we can select this
> parts and how we can fit a curve to these parts separatly?
> Cheers

Identifying the different parts is up to you. How do you know that there are 2-3 different trends? Whatever method you use to reach that conclusion will have to be adequate to identify where the different trends start and end. However, once you have identified the different parts you want fit separately, fitting each one separately is trivial: pass x[trend_start[i]:trend_end[i]] and y[trend_start[i]:trend_end[i]] to the curve-fitting routine.

If you want a curve fitting routine that automatically figures out where each trend starts and ends, then it gets a LOT more complicated. You could do that by using a non-linear curve fitting routine, and make the transition point between the two trends be one of the parameters of your fitting curve. However, I would strongly recommend trying to understand why you see 2 or 3 different trends, and then try to come up with a single mathematical model for the entire curve that reflects that reason. Then fit that model to your data.