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Subject: Re: IDL fitting of piecewise continuous function  
Posted by [Jeremy Bailin](#) on Tue, 17 May 2011 19:21:49 GMT  
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Craigh Markwardt's MPFIT (and its variants) is most people's preferred fitting routine:

<http://www.physics.wisc.edu/~craigm/idl/fitting.html>

You define your own function to feed in, so it can have whatever behaviour you want. To ensure continuity, I would recommend re-parametrizing the functional form so that it is continuous by definition. In this, case, A and B aren't actually independent, so calculate B in terms of A by setting them equal at  $x=x_m$ , which gives

$$B = A x_m^{3/2}$$

So you're actually fitting:

$$f(x) = \begin{cases} A x_m^{1/2} x^{1/2} & x < x_m \\ A x_m^{3/2} x^{-1} & x > x_m \end{cases}$$

-Jeremy.

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