Subject: Interpol asymmetric?
Posted by Christian on Thu, 24 May 2012 23:01:37 GMT
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I've traced some problems to an unlikely source... For me, INTERPOL
does not always work symmetrically when using the quadratic setting!
(ie - the reverse of the output from reversed input is not the same as
the regular output). From the definition of what it's (supposed to be)
doing in the documentation it seems that it should.

For example, if I enter:
test = [0,1,2,3,4,5,5,4,3,2,1,0]
plot, interpol(test,100,/quad), psym=5
oplot, interpol(test,100)

I find that the peak produced by /quad is lopsided, with an extra
bulge on the right hand side. This is using IDL 7.0. Presumably
other people experience the same phenomena? I couldn't find any
reference to this on the web - is this a known problem or maybe I
misread the documentation? Any workaround? I would prefer to get
what the left-hand side of this simple example looks like, but on both
sides...

Subject: Re: Interpol asymmetric?
Posted by Kenneth P. Bowman on Fri, 25 May 2012 17:52:55 GMT
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In article <bd3a5af7-01f3-47e5-94fe-d6b1078f286f@x6g2000pbh.googlegroups.com>,
 Christian <christian.veenstra@gmail.com> wrote:

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> sides...

Quadratic interpolation uses three points, so the interpolation is necessarily asymmetric.

That is, when you are interpolating in the interval between two points [x(i), x(i+1)], does the third value come from the point to the left of the left-hand point x(i-1), or to the right of the right-hand point x(i+2)?

I don't know which one INTERPOL uses, but in general you will get different results if you reverse the data.

If symmetry is required, try odd-order interpolation (linear or cubic).

Ken Bowman
