Subject: N3 (authomatic correction of intensity in MRI data)
Posted by John K on Tue, 18 Nov 2014 20:13:07 GMT
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Hello, I'm trying to implement this algorithm in IDL.
(papers: https://www.nitrc.org/docman/view.php/6/880/sled.pdf ;
https://www.dropbox.com/s/4mmys4ikb92ya4l/original%20-%20SLE
D%20John%20G.%20Sled.pdf)
After a few weeks of researching I still have troubles understanding the b-spline smoothing.
From what I understand it uses a TRICUBIC b-spline approximation, but I cannot find any function already implemented in IDL that can do more than a 2d spline approximation. Can anybody point me in the right direction?
Any tips would be useful, thanks in advance.

Subject: Re: N3 (authomatic correction of intensity in MRI data)
Posted by rryan%stsci.edu on Tue, 18 Nov 2014 21:24:19 GMT
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On Tuesday, November 18, 2014 3:13:08 PM UTC-5, John K wrote:
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UGGH... no, but if you get it sorted out, please leave a message about what you found. I was trying to do this one day too. I know there's stuff in the IMSL library (which I don't have), but I have no idea if that supports tricubic or not.

-Russell

Subject: Re: N3 (authomatic correction of intensity in MRI data)
Posted by lecacheux.alain on Wed, 19 Nov 2014 17:41:21 GMT
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On Tuesday, November 18, 2014 9:13:08 PM UTC+1, John K wrote:
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For tricubic interpolation (which basically uses a 3D mesh of 64 data points), you may use a direct solution which involves a 64x64 matrix (product as explained by Lekien & Marsden, J.Numer.Meth.Eng., 63 (2005)), or an iterative method (refer, for instance to http://en.wikipedia.org/wiki/Tricubic_interpolation).
The latter algorithm can be coded quite easily in IDL.
Alx.
