Subject: Re: Convol with Kernel Dependency Of the Radius to the Middle
Posted by bente on Wed, 31 Oct 2001 09:14:10 GMT
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Hi,
> I assume you mean that the function that describes the 3d kernel depends on
> the radial (cartesian) distance of the image voxel from a point in the
> image:
> *pseudo formula alert!*
> Image'(x,y,z) = Image [convolved_with] Kernel(R(x,y,z))
> where R(x,y,z) = sqrt((X-Xo)^2+(Y-Yo)^2 + (Z-Zo)^2))

Thats right.

> If so, I guess the question is, what is the dependency of the kernel on R?
> If linear then maybe the radial aspect of the kernel is separable

My Proffessor had the "nice" idea, that a PET image, has a better resolution in the middle of the picture than on the edge for each slice. To simulate this he wants that the Kernel has a dependency of x & y (not z!) in that form that the FWHM (Full Width Half Max) of a 3D Gaussian Kernel increases linear with the distance from the middle.

Thats a bit too much for my "weak" knowledge of IDL, I solved it in that form, that i convol the whole stuff 10 times and then copy several "barrels" together to the whole picture. It looks ok, but itï¿½s not as smooth as it should be.

I think I have to write a complete new convol function :-((
smile

thanks for the answer.

Kay