Subject: Re: backprojection
Posted by Wox on Fri, 19 Jan 2007 09:52:32 GMT
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On 18 Jan 2007 08:49:10 -0800, "Mike" <Michael.Miller5@gmail.com>
wrote:

> Don't forget that the inverse radon transform is not the inverse
> of forward projection. The filtered backprojection is the
> inverse. Filtered backprojection generally proceeds by four
> steps: 1) calculate the Fourier transform of the projection data,
> 2) apply the appropriate filter, 3) calculate the inverse Fourier
> transform to get filtered projections, 4) backproject the
> filtered projections to get an image.

<snip>

> ;; apply the filter to each row of the sinogram
> FOR a = 0,Nangles-1 DO BEGIN
>   row = sgplane[*,a]
>   ftrow = FFT(row)
>   ftfilteredrow = ft_filter * ftrow
>   filteredrow = FFT(ftfilteredrow, /INVERSE)
>   sgplane[*,a] = filteredrow
> ENDFOR

<snip>

To clarify: the filter shown is similar to the RamLak filtering in
real space (using convolution instead of multiplication) on Mark
River's web-site:
http://www-fp.mcs.anl.gov/xray-cmt/tomo_filter.htm