

3 D Cone beam CT reconstruction using FDK formula

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Results

Phantom sheppdef3d with the following parameters using phantom3D.m
Fig 1 shows the sum of the phantom image in x direction



Figure 1: phantom in axial direction

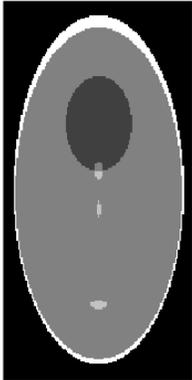


Figure 2: phantom in saggital direction

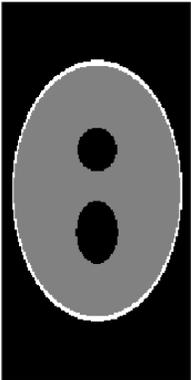


Figure 3: phantom in coronal direction

D=200;
Nu=256; Nv=256; Np=100; uoff=Nu/2; voff=Nv/2; R0=100; du=40/Nu; dv=du;
Nx=256; Ny=256; Nz=128; xoff=Nx/2; yoff=Ny/2; zoff=Nz/2;

$dx=20/N_x$; $dy=20/N_x$; $dz=20/N_z$;
 $al=0.5$; The laplacian of the Backprojection reconstruction of the given phantom looks like this:

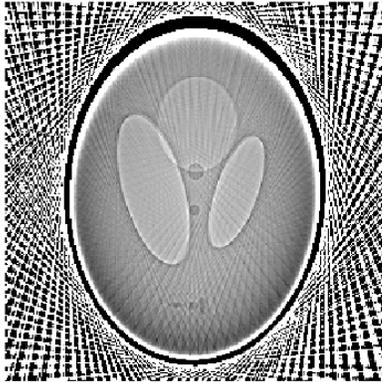


Figure 4: phantom in axial direction

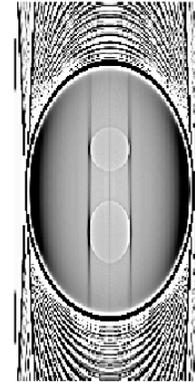


Figure 5: phantom in coronal direction

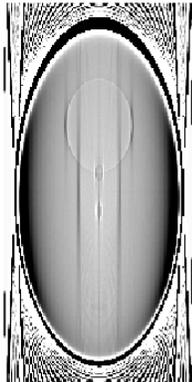


Figure 6: sum of phantom in saggital direction

My ramp filter is not doing the right job and therefore i am getting reconstructions like this. After filtering with ramp filter it looks like this:



Figure 7: phantom in axial direction

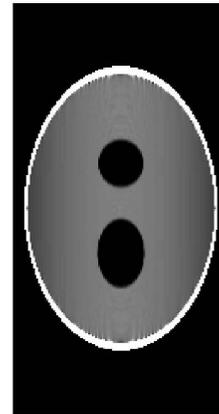


Figure 8: phantom in coronal direction

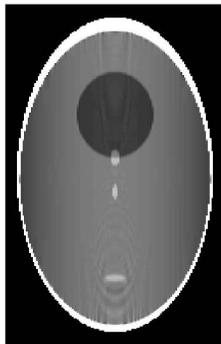


Figure 9: phantom in saggital direction