Abstract Submitted
for the TSS16 Meeting of
The American Physical Society

MRI Image Sampling and Reconstruction of a Brain with Alzheimer's Disease HEEJAE CHUNG, RICHARD KYUNG, Choice Research Group — When the domain of the square function increased, more data in the K-space were captured, resulting in images of higher resolution. When the domain of square function decreased, less data in the K-space were captured, resulting in lower resolution. In addition to the observation of the consequential resolution of the images produced, when a wide square function was used, a narrow Sinc function formed as a result. When a narrow square function was used, a wide Sinc function formed. However, Ringing Artifact existed in every resulting image using a square function as a LPF. In this research, computational approach to enhance the quality of the image was carried out for the analysis of various cases. Also, removal of ringing artifact in the magnetic resonance image using Fourier transform and mathematical morphology was presented. To improve the resolution of the brain with Alzheimers Disease from low contrast MRI films, high pass filter and redesigned filter were used, achieving a good tradeoff between the code running time and resolution of the MRI image of the Alzheimers Disease.

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Date submitted: 31 Mar 2016 Electronic form version 1.4