Abstract Submitted
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Computational and Physical Analysis on Biomedical Imaging Using Alternative Method for Higher Resolution RICHARD WU, KYUYEOL KIM, SEWON PARK, Choice Research Group — An MRI (magnetic resonance imaging) scan is a technique that uses magnetism, computers, and radio waves to produce images of the intended subject. This is a common medical imaging technique used to determine the anatomy and physiology of the subject in multiple areas. The technique is widely in use for medical diagnosis, disease, staging of diseases and subject studies etc. To get the image from MRI, frequency has to be transferred to image using mathematical and computational transformations. Since the Low spatial frequencies contain the most of the information about the image, not all of the data is necessary in producing the required image. A proper function can be multiplied by original k-space to get reduced size of frequencies which will be used to determine output images. In this research, new computational MRI physics experiments were carried out with several modified filters to reduce the ringing effect, to improve the resolution of an MRI image to a degree, and to propose an efficient function as a new filter.

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