

Abstract Submitted
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A Study on the MRI Physics and Biomedical Image Processing CHAE-EUN D LEE, SOOHYUN KIM, HYUNJEONG CHANG, CRG(Choice Research Group) — Biophysical technology plays an imperative role in physicians examination and diagnosis of patients. The development of MRI (Magnetic Resonance Imaging) physics has revolutionized the way we examine brain diseases, such as dementia. After Alzheimers disease, Vascular Dementia (Va. D) is the second most common type of dementia that affects the global population. This particular brain disease develops due to a restricted blood flow to the brain, causing patients to experience difficulty in various thought processes such as decision-making, judgment, memory, planning, and organizing. In order to guarantee the best possible examination of suspected Va. D patients, high quality MRI images of the brain are required. Using the Matlab and MRI physics theory, this paper studies the MRI image of the human brain affected with various stages of Va. D. Patients with a healthy brain, mild case of Va. D, and severe case of Va. D, will exhibit distinct images. Such different in images will produce different MRI k-spaces, generated by Fourier Transformation.

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