Analysis of Alzheimer’s Disease Using Computational Neuroimaging

SOO HWAN PARK, SHEAMIN KHYEAM, HA YOUNG KYUNG, CRG(Choice Research Group) — As Alzheimer’s is becoming more common in our population, it is important to develop adequate medical technology that will help physicians better examine patients with Alzheimer’s disease. Alzheimer’s disease is a progressive neurodegenerative disorder characterized by the gradual onset of other disease such as dementia. Neuroimaging is widely studied for the purpose of removing the causes of dementia syndrome, such as brain tumors and cerebrovascular disease. Structural imaging based on magnetic resonance is an integral part of the clinical assessment of patients with suspected Alzheimer dementia. In this paper, MRI image of the brain affected with Alzheimer’s disease was used to determine the frequency domain, which can be used to reconstruct the image by mathematical and computational transformations. Since the frequency data of the brain with Alzheimer’s disease produced through the MRI process is in a large magnitude, not all of the data is necessary in producing the required image.