**عنوان مقاله:**

The Silent Acoustic Noise Protocol of Magnetic Resonance Imaging Examination in the Case of Head Image

**محل انتشار:**

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**خلاصه مقاله:**

Introduction: Health examinations are performed every six months. X-rays, magnetic resonance imaging (MRI), ECGs, and blood tests are all part of health examinations. In this investigation, the silent T۲ Fast-Spin-Echo (FSE) and Gradient-Recalled Echo (GRE) MRI head examination sequences are compared. Noise is produced during an MRI test in addition to images. Material and Methods: This research was conducted by adjusting the parameters on the MRI, such as time repeat (TR), time echo (TE), and echo train length (ETL). Then, the resulting silent sequence image is simulated with a simulation program. Results: The variation of TR ۴۴۰ with TE ۲۴ in the GRE sequence for the white matter (WM) tissue has the highest signal to noise ratio (SNR) value. The cerebispinal fluid (CSF) tissue is also in the TR ۵۶۰/TE ۲۰ variant at the same time. Then, variations of TR ۳۳۶۰, TE ۹۷, and ETL ۳۳.۶ have the highest peak signal to noise ratio (PSNR) measurement results in the WM or CSF tissue. Conclusion: According to the study's findings, the average sound intensity level and mean square error (MSE) value produced by the GRE sequence protocol are less than those produced by the T۲ FSE sequence protocol. While this is the case, the GRE sequence protocol generates an average PSNR value that is higher than the FSE T۲ sequence protocol. The T۲ FSE sequence with variations of TR ۳۳۶۰, TE ۹۷, and ETL ۳۳.۶ may then be observed to be the best with the ideal noise level and SNR value.

**کلمات کلیدی:**

health, T۲ FSE, GRE, Noise level, MRI

**لینک ثابت مقاله در پایگاه سیویلیکا:**

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