ABSTRACT

Seismic signals are the energy vines that are usually caused by interference from the earth or Earth's crust. The tool to obtain seismic signal information is a seisthermometer, the seismic signal has information in the form of earthquake strength recorded, and also some do not include information on seismic signal in the form of noise. This noise is detrimental to other information, therefore it will be done research to reduce noise in seismic signal with noise handling system. This system will address noise in the seismic signal, and will result in a seismic signal with reduced noise.

The research of this noise handling system aims to reduce the presence of noise in seismic signals, and to make seismic signals deliver the required information correctly and accurately. Noise handling will overcome the problem with the frequency analysis technique using the fast Fourier transform and filtering methods. The system will process seismic signal data from several earthquake events, and will result in a seismic signal with reduced noise.

In this study, the best perfomance in testing for noise handling systems using fast Fourier Trasnform method with low pass filter value = 0.1 and high pass filter = 0.1, get SNR value = 46.44886478 and MSE = 0.849324382.

Keywords: *Noise Handling, Seismic Signal, Fast Fourier Transform, SNR, MSE, Frequency Analysis*