

ABSTRACT

Has built a system that can provide output in the form of a string that has errors on a chord tone. The methods used are; Windowing, Fast Fourier Transform, Harmonic Product Spectrum and frequency analysis for fault detection tone in the chord being played. From the test results, obtained accuracy rate system with a percentage of 87.7% of the total 724 samples given chord and the level of system accuracy on each kind of chord has a percentage value of more than 80%, and the chord A minor achieve accuracy values of 92, 08%. In addition, the system has a level of sensitivity to disturbance on the string in a way to loosen the tuning knob of 180° (-180°) which is able to detect errors in the sample chord with a percentage of 97.65%. While the range of -45° is only able to detect faults with a percentage value of 73.43% of the total sample that is given in the range of the disturbance.

Keywords: *Chord, Windowing, Fast Fourier Transform, Harmonic Product Spectrum*