

ABSTRACT

Entering the 21st century which began in 2001, there was a very rapid development of technology and information, as well as the internet. In accessing the internet, there is a lot of entertainment offered, one of which is online games. Behind the positive benefits obtained, playing excessive online games appears addiction with its various negative effects. This negative impact is quite a big influence on the learning concentration of the individual.

In this study, measurements of *alpha* and *beta* brain signals were carried out, against the concentration level of a person who was addicted to *online games*. This study used an *Electroencephalogram* (EEG) tool. The EEG signal was analyzed and then extracted using first-order statistics and *Empirical Mode Decomposition* (EMD) as the decomposition of the EEG signal.

Based on the results of this study, it was found that out of 20 respondents, there were three respondents who showed low concentration levels due to the influence of *online game* addiction. Parameters that can be measured to see this level of concentration are obtained as a result of the pattern on *the betha* signal there are five parameters, namely *mean*, *standard deviation*, *variance*, *skewness*, and *entropy*. While the alpha signal gets a pattern of two parameters, namely *standard deviation*, and *kurtosis*.

Keywords: Electroencephalogram, Empirical Mode Decomposition, Online Game.