

ABSTRACT

Tsunami Early Warning System is a comprehensive system that consist of various communication system. One of them is a satellite communication system that used to transmit data from *buoy* to *gateway*. The transmitted data are very important because it carries information needed to analyze the probability of the tsunami occurrence. So a good performance from the satellite communication system is needed. One of the parameter used to measure the performance in the satellite communication system is *link margin*. The value of *link margin* depends on *C/N total* and *C/N required* from the system. To get a good performance, *C/N total* has to be higher than *C/N required*.

Link Calculation is a way to analyze the performance of the satellite communication system in tsunami early warning system in Indonesia. The inputs are data of *buoy* distribution in Indonesia and the specification of satellite, *buoy*, and *gateway*. While the output is a *link margin* value that represents performance of the satellite communication system of the *Tsunami Early Warning System*.

Performance of the satellite communication of *Tsunami Early Warning System* in Indonesia in general is good because from the calculation obtained *C/N total* that has higher value then *C/N required*. *C/N required* is 7,9 dB while *C/N total* 11,82, so the *link margin* is 3,91 dB.

Keywords: *Tsunami Early Warning System*, *buoy*, *gateway*, *link margin*, *C/N*.