ABSTRAK

Penelitian ini dilakukan terhadap karakteristik petir *Narrow Bipolar Pulses* ,dari 3121 data medan listrik petir yang terekam dari bulan Januari 2015 hingga Maret 2016 yang terjadi di kota Padang, dengan pendeteksian menggunakan sensor *fast antenna* dan *slow antenna*. Pada penelitian ini dilakukan analisa perubahan bentuk pulsa *Narrow Bipolar Pulses* petir *IntraCloud* untuk menentukan karakteristik petir tersebut. Didapatkan 131 data petir *Narrow Bipolar Pulses* dimana 30 data bertipe A dan 101 data bertipe B baik +NBPs maupun –NBPs dengan persentase 23 % tipe A dan 77 % tipe B. Ditemukan 64 data (48,85%) tidak memiliki pulsa sebelum dan sesudah NBPs terjadi dan 67 data (51,14%) ditemukan adanya pulsa lain sebelum dan sesudah NBPs. Kemudian ditemukan 29 data Tipe A dengan kondisi *Single* dan 96 data Tipe B kondisi *Single* sedangkan 6 data lainnya kondisi *Multiple* NBPs. Didapatkan interval waktu pusa NBPs sebelum dan sesudah pada rentang waktu 0 – 0,1 s. Didapatkan rise time 0 -100% tertinggi sebesar 5 – 6 µs bertipe A , rise time 10 - 90% sebesar 1 – 1,5 µs bertipe B dengan time duration (T1) tertinggi sebesar 4 – 5 µs bertipe B dan time duration (T2) sebesar 14,5 – 15,5 µs. Amplitudo Overshoot tertinggi 2,5 – 3,0 µs bertipe A dengan pulse duration tertinggi sebesar 15,5 – 20,5 µs bertipe B.

***Kata Kunci**: Narrow Bipolar Pulses, IntraCloud*

ABSTRACT

This research was conducted on the characteristics of lightning *Narrow Bipolar Pulses*, from 3121 lightning electric field data is recorded from January 2015 until March 2016 that occurred in the city of Padang, with detection using a sensor *fast antenna* and *slow antenna*. In this research, analysis of changes in the pulse shape *Narrow Bipolar Pulses* lightning *IntraCloud* to determine the characteristics of the lightning. Obtained 131 *Narrow Bipolar Pulses* lightning data which 30 of the type A and type B 101 data is either +NBPs or capturing the -NBPs with a percentage of 23% of type A and type B. 77% found the data 64 (48.85%) did not have a pulse before and after capturing the data is going and 67 (51.14%) found their pulse before and after capturing the other. Later found 29 Data Type A with Single condition 96 and Data Type B Single conditions while 6 other data capturing the *Multiple* conditions. Obtained intervals before and after capturing the momentum in the period from 0 to 0.1 s. Obtained rise time 0 -100% high of 5-6 µs Type A, rise time 10 -90% of of 1 - 1.5 µs of type B with time duration (T1) is the highest of 4-5 µs and time Duration of type B (T2) of 14.5 to 15.5 µs. The Overshoot highest amplitude from 2.5 to 3.0 µs with pulse duration Type A with a high of 15.5 to 20.5 µs of type B.

Keywords: *Narrow Bipolar Pulses, IntraCloud*