ANALISA MEDAN LISTRIK-DEKAT PETIR *POSITIVE CLOUD TO GROUND*

TUGAS AKHIR

Karya Ilmiah sebagai salah satu syarat untuk menyelesaikan jenjang strata satu (S-1) di Jurusan Teknik Elektro, Fakultas Teknik, Universitas Andalas

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Abstrak

Penelitian ini dilakukan terhadap 19 data medan listrik-dekat petir *positive cloud to ground* (+CG). Deretan pulsa pada medan listrik petir terdiri dari *preliminary breakdown* (PB) dan *return stroke* (RS). Analisis yang dilakukan dalam penelitian yaitu: *PB/RS rasio,* PB-RS *separation, pre-return stroke duration, pulse train duration, individual pulse duration. Initial electric field change* (IEC) dan hubungan petir +CG dengan citra satelit cuaca. Rata-rata PB/RS rasio, PB-RS *separation, pre-return stroke duration, pulse train duration, individual pulse duration dan initial electric field change* (IEC) adalah 13,89%, 91,53 ms, 102,23 ms, 1,20 ms, 150,31 µs dan 16%. Berdasarkan pengamatan pada citra satelit cuaca, petir +CG yang terjadi selalu disertai hujan.

Kata Kunci *: Medan listrik dekat, petir positive cloud to ground, preliminary breakdown, return stroke, citra satelit cuaca.*

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Abstract

This study was conducted on 19 electric field data near positive lightning cloud to ground (+CG). The electric field change of +CG lightning consist of preliminary breakdown (PB) and return stroke (RS). The analysis conducted in this research are: PB/RS ratio, PB-RS separation, pre-return stroke duration, pulse train duration, individual pulse duration and initial electric field change (IEC). Furthermore, the relationship between +CG lightning and cloud image satellite was observed the average value of PB/RS ratio, PB-RS separation, pre-return stroke duration, pulse train duration, individual pulse duration and initial electric field change were 13,89%, 91,53 ms, 102,23 ms, 1,20 ms,150,31 µs, 16 %, respectively. Based on observation of cloud image satellite, +CG lightning that happens always accompanied by rain.

Keyword : Near electric field, positive lightning cloud to ground, preliminary breakdown, return stroke, cloud image satellite.