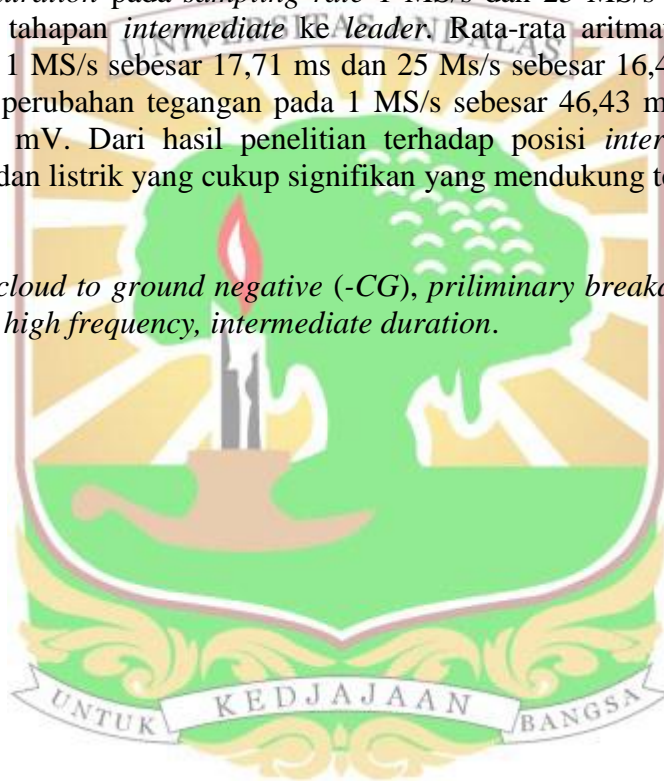


ABSTRAK

Tugas akhir ini bertujuan untuk mengamati perubahan medan listrik pada *intermediate* petir negatif *cloud to ground* (-CG) dengan terminologi *breakdown-intermediate-leader* (BIL) sebelum sambaran balik pertama. Penelitian ini dilakukan terhadap 74 data medan listrik petir yang terekam selama bulan Maret - April 2016, dengan pendeteksian menggunakan antenna medan listrik (*fast antenna*). Data tersebut dibandingkan dengan *sampling rate* 1 MS/s dan 25 MS/s. Dari analisis data menggunakan sensor *high frequency*, didapat 89% (66 data) petir yang mengalami perubahan pada tahapan *intermediate* dan 11% (8 data) petir yang tidak mengalami perubahan pada *intermediate*. Pada penelitian ini juga dilihat *intermediate duration* pada *sampling rate* 1 MS/s dan 25 MS/s serta perubahan tegangan dari tahapan *intermediate* ke *leader*. Rata-rata aritmatik *intermediate duration* pada 1 MS/s sebesar 17,71 ms dan 25 Ms/s sebesar 16,48 ms serta rata-rata aritmatik perubahan tegangan pada 1 MS/s sebesar 46,43 mV dan 25 MS/s sebesar 598,4 mV. Dari hasil penelitian terhadap posisi *intermediate*, terjadi perubahan medan listrik yang cukup signifikan yang mendukung teori Beasley.

Kata Kunci : *cloud to ground negative* (-CG), *priliminary breakdown*, *leader*, *high frequency*, *intermediate duration*.



ABSTRACT

The final task was observed the changes of electric field in the intermediate negative cloud to ground lightning (-CG) with terminology breakdown-intermediate-leader (BIL) before first return stroke. This study was used 74 data and the lightning electric field recorded during March - April 2016, with detection using an electric field antenna (fast antenna). The data was compared with the sampling rate of 1 MS/s and 25 MS/s. The result obtained 89% (66 data) lightning changes in intermediate stages and 11% (8 data) lightning unchange at intermediate with high frequency sensor. Furthermore, this study seen intermediate duration at the sampling rate of 1 MS/s and 25 MS/s and the voltage change from intermediate state to leader. Arithmetic rate of intermediate duration at 1 MS/s and 25 Ms/s was 17.71 ms and 16.48 ms, respectively. Aritmathic rate of voltage change at 1 MS/s and 25 Ms/s was 46,43 mV and 598,4 mV, respectively The result about intermediate position has occured significant change of the magnetic field and suitable with Beasley theory.

Keywords: cloud to ground negative (-CG), priliminary breakdown, leader, high frequency, intermediate duration.

