

**ANALISA DATA MEDAN LISTRIK DAN DURASI BADAI PETIR
HINGGA SAMBARAN PETIR JENIS *CLOUD TO GROUND NEGATIVE***

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ABSTRAK

Penelitian ini dilakukan terhadap intensitas medan listrik atmosfer dan waktu badai petir hingga sambaran pertama. Penelitian ini bertujuan untuk melihat karakteristik perubahan gelombang medan listrik atmosfer dengan mengamati durasi waktu badai petir hingga sambaran pertama dan durasi terjadinya badai petir, dan rata-rata medan listrik. Data medan listrik yang digunakan berasal dari data *Electric Field Mill* yang direkom oleh sensor *Electric Field Mill* dari bulan Januari hingga Agustus 2016. Di daerah yang sama, digunakan petir jenis *Cloud to Ground Negative Non Zero Crossing* pada bulan Januari hingga Agustus 2016. Analisis badai petir hingga sambaran pertama dengan mengamati polaritas gelombang medan listrik serta menghasilkan badai petir hingga sambaran pertama petir yang pertama dengan durasi terlama pada tanggal 4 Maret 2016 terdapat sebanyak 258 menit dan durasi tercepat pada tanggal 1 April 2016 terdapat 16 menit. Durasi badai petir terlama pada tanggal 4 April 2016 sebanyak 504 menit dan tercepat 29 Februari 2016 sebanyak 120 menit. Rata-Rata durasi badai petir hingga sambaran petir pertama terlama pada bulan Maret 2016 sebanyak 125,125 menit, dan tercepat Januari 2016 sebanyak 105,8 menit. Durasi badai petir terlama terjadi pada bulan April 2016 dan badai petir terbanyak terjadi pada bulan April 2016. Parameter waktu yang dibutuhkan dari awal badai petir hingga sampai terjadi sambaran petir awan ke bumi yang pertama perlu dilakukan untuk data pengukuran medan listrik atmosfer sebagai acuan sistem peringatan bahaya petir.

Kata Kunci : Petir *Cloud to Ground Negative non zero crossing*, Badai Petir, *Electric Field Mill*

ABSTRACT

This research was conducted on the intensity atmospheric electric field intensity and the time of thunderstorms and duration of thunderstorm up to its first strike. This research was meant to understand the characteristic of electromagnetic wave changes in the atmosphere by examining the duration of the thunderstorm on the first lightning strike as well as the duration of lightning storm occurrence, and the average of electromagnetic. The electromagnetic data that was being used in this research was from Electric Field Mill recorded by Electric Field Mill sensor from January to August 2016. In the same region, cloud to ground negative non zero crossing type of lightning was used in January to August 2016. The analysis of the first lightning strike of thunderstorm by examining on the polarity of electromagnetic wave and also resulting a thunderstorm to its first lightning strike. The longest duration of a lightning strike was occurred on March, 4th 2016 with 258 minutes long and the shortest one was occurred on April, 1st 2016 by 16 minutes long. The longest duration of thunderstorm was on April, 4th 2016 with 504 minutes long and the fastest one was on February, 29th 2016 with 120 minutes long. The average duration of thunderstorm up to its first lightning strike was in March 2016 in amount of 125,25 minutes, the fastest was in January 2016 in amount of 105,8 minutes. The longest duration lightning storm was occurred in April 2016 and the most frequent lightning strike was happened in April 2016 as well. The needed time parameter from the early thunderstorm up until its first lightning strike is required to complete the data of electromagnetic wave in atmosphere as a reference for a lightning warning system.

Keyword : Lightning Flash Cloud to Ground Negative Non Zero Crossing, Thunderstorm, Electric Field Mill