Contribution ID: **111** Type: **Poster**

DEVELOPMENT AND TESTING OF A 200kA, 10/350μs LIGHTNING IMPULSE CURRENT GENERATOR SWITCH MODULE

Monday 19 June 2017 13:30 (1h 30m)

A switch module assembly utilizing a power crowbar circuit and high-pressure plasma closing switch technology has been designed, constructed and tested. The switch module is the central block of a lightning impulse current generator under development, capable of producing a 10/350μs waveform at a peak magnitude in excess of 200kA (W/R = 10MJ/Ω). The circuit consists of two separately charged capacitor banks, a fast start bank and a slow sustain bank responsible for the generation of the pulse wave-front and wave-tail respectively. These are switched in sequence to the load by means of two electrically triggered, graphite electrode high-action integral spark gap switches. The switch module assembly was tested for a number of different switch parameters and circuit operation modes. The produced output current pulse had a magnitude of 30kA for a start and sustain capacitor bank charging voltages of -40kV and +3.5kV respectively. In addition, the operational performance and trigger range characteristics of the two switches were investigated.

Author: Dr KOUTSOUBIS, John (Technological Education Institute (TEI) of Sterea Ellada)

Co-authors: Mr GRAY, Jim (High-Voltage and High-Current Testing Laboratory, ELEMKO SA); Mr KOKKINOS, Dimitrios (High-Voltage and High-Current Testing Laboratory, ELEMKO SA); Dr KOKKINOS, Nikos (High-Voltage and High-Current Testing Laboratory, ELEMKO SA)

Presenter: Dr KOUTSOUBIS, John (Technological Education Institute (TEI) of Sterea Ellada)

Session Classification: Poster session I - Pulsed Power Physics and Technology, Components and HV Insulation

Track Classification: Pulsed Power Physics and Technology, Components and HV Insulation