

**Julien Even, "Design of a Portable System for the Measurement of Electric fields from Lightning", 2015.**

*Abstract*

The measurement of electromagnetic fields radiated by lightning discharges are important for a number of reasons, most importantly as part of the general investigation into the physics of lightning discharge, and as a means for the validation of theoretical models describing the distribution of currents along the lightning channel. Measurements of electric and magnetic fields are also used in lightning detection networks that are being used extensively for detecting and locating lightning discharges.

In this project, a portable system for the measurement of lightning electric fields was designed and built. The system includes a flat plate antenna for the electric field, and an amplifier and analog integrator with offset compensation, and a power supply. The system is characterized by a time constant of 0.42 ms and a frequency response ranging from 150 Hz to 2.5 MHz.