

Data Acquisition System for an Infrasound Network for Thunderstorm Monitoring

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Inside a thunderstorm, an updraft pushes ice crystals with positive charge to the top, while a downdraft pushes hailstones with negative charge to the bottom. This charge separation results in lightning. While the electric charge and peak current in lightning events have been extensively studied, they do not indicate the strength of the atmospheric convection that produces thunderstorms. Another parameter, the electrical energy from lightning, has not been thoroughly explored. We will look at the electrical energy from lightning as a possible indicator of the strength of a developing thunderstorm. Electrical energy, however, has not been clearly linked to the peak current of a lightning event. Thus, we cannot rely on peak current measurements to estimate electrical energy. Infrasound emitted by thunderstorms might be a possible way to estimate the electrical energy in lightning events. Microphones can be used to detect infrasound. This work will discuss the development of a data acquisition system that will be used to record and transmit sampled infrasonic data from microphones. This work is being undertaken under the SATREPS/ULAT Project.

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