



Lightning activity in Europe as sensed by long range NOA ZEUS and UK Met Office ATD VLF lightning systems and NASA TRMM-LIS sensor

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Long-range VLF lightning sensors can monitor the lightning activity on a large scale and during the entire life of the storms. The National Observatory of Athens operates in real time the long-range VLF sensing ZEUS system while the UK Met Office runs the long-range VLF ATD system for already a decade. Both systems cover Europe and the Mediterranean Sea.

Preliminary results of the study of the lightning activity in Europe from VLF observations shows that lightning activity is predominantly located over sea during winter while during summer most of the flashes are located over land.

We will first present some typical observations of the lightning activity recorded by ZEUS in Europe and around Greece during summer and winter. Then we will detail flash density as well as diurnal and seasonal variations of the lightning activity in Europe based on the VLF observations. Finally we will present preliminary results of the study of ratio of cloud-to-ground to intracloud flashes (over the Mediterranean Sea) based on the merging of the VLF observations with the optical measurements of NASA Lightning Imaging Sensor (LIS) on board of the Tropical Rainfall Measurements Mission (TRMM) satellite.