



Study of European Continental Thunderstorms Based on Space Borne Infrared/Microwave and Ground-based Lightning Observations

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We present some results of an on-going analysis of concurrent visible, IR, microwave and lightning observations to document European Continental thunderstorms. The VLF/LF observations of the University of Munich LINET network are used to characterize the lightning activity at high temporal and spatial resolution. Visible and IR MSG imagery is used to determine the cloud coverage while different low-orbit sensors such as SSM/I and AMSRE are used to characterize the microwave radiation and the cloud microphysics within the studied clouds. Additional observations from other A-train payloads are used to describe the clouds and their microphysics. We will summarize some of our results on the characterization of the convection in European Continental thunderstorms in terms of lightning intensity, vertical extension of the cloud, microwave brightness temperatures and visible/IR radiances, and cloud microphysics on the global scale and on the storm scale. We will also discuss on the complementarity of the different instruments and compare the present results with continental TRMM observations.