



Remote sensing of precipitation: the multi-sensor approach

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With the forthcoming Global Precipitation Mission and its proposed application at higher latitudes than the current TRMM mission, new impetus is given to the development of retrieval algorithms, and validation procedures in moderate climate zones. Retrieval algorithms of rainfall rate, latent heat flux or wind fields require a good physical understanding of the rainfall process as well as a good model of the microphysical structure of the full atmospheric column. With higher frequencies being used in passive sensors from space, the level of detail microphysical information needs to be enlarged. This presentation describes the integrated approach at CESAR Observatory, combining radar at different wavelengths, lidars and in situ rainfall instruments to study physical precipitation processes. Special attention will be given to the combination of Doppler and polarization radar measurements to retrieve precipitation micro-physics.