7.12 INTRA- AND INTER-EVENT VARIABILITY OF DROP SIZE DISTRIBUTION IN MEDITERRANEAN REGIONS

B. BOUDEVILLAIN[1], S. HACHANI[12], G. DELRIEU[1], Z. BARGAOUI[2]

[1] Université Grenoble Alpes, CNRS, IRD, IGE, 38000 Grenoble, France

[2] Universit Tunis El Manar, Ecole Nationale des Ingénieurs de Tunis (ENIT), BP 37, 1002 Tunis le Belvédère, Tunisia

brice.boudevillain@univ-grenoble-alpes.fr

Drop Size Distribution (DSD) is a key element for studying rainfall processes and their hydrological impacts. DSD observation is necessary both for the understanding of factors modifying rainfall properties (e.g. orographic influences) and for development and/or validation of microphysical schemes in meteorological models. DSD observation is also useful for understanding issues in radar-based estimates of rainfall rates and kinetic energy fluxes.

A DSD observation network has been set up throughout the HyMeX′s Long Observation Period and in the framework of the Cvennes-Vivarais Mediterranean Hydrometeorological Observatory (OHM-CV) both at small (Hpiconet, Auzon catchment) and meso scales (Cvennes-Vivarais). Thus, a climatology of rainfall properties at the ground has been established over 5 years (2012-2016). The inuence of several factors were analyzed: locations (distance from the sea, orographic environment), seasons, daily synoptic weather situations (derived from geopotential heights, at 700 and 1000 hPa), rainfall types (analyzed from 5 min radar data), as well as some combinations of these factors.

The aims of this communication are: 1) to present the main results of the climatological study finalized recently (Hachani et al., 2017); 2) to extend it in several Mediterranean contexts thanks to observations available on South-Alps, Corsica and Tunisian sites; 3) to go further on intra-event variability through the analysis of the shape of normalized DSDs and of radars observations.

References

Hachani, S., Boudevillain, B., Delrieu, G., Bargaoui, Z.: Drop Size Distribution climatology in Cvennes-Vivarais region, France. Atmos., 8, 233, 2017.