



## **Early stages development of convective cells over Northern Italy observed by polarimetric C-band radar and satellite**

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The early stages development of convective cells over the Po valley in Northern Italy is investigated, through C-band radar systems, Meteosat, wind profiler and ground observations. The aim of the study is a deeper understanding of the dynamical and microphysical processes responsible for the rapid initial cell's growth and its relation with further evolution of the storm, with particular regard to hail formation. Measurements available from two polarimetric radar are ZH, ZDR, V,  $\sigma_V$ , acquired during the operational scan made of 11 elevations, repeated every 10 minutes. To better understand the microphysics of the cell's mature stage lightning data are also considered.

The expected impact of this kind of study, implying the integration of several in-situ and remote sensors, is in the field of prognostic activities, such as nowcasting. The temporal sampling of the available instruments and their adequacy to this practical subject is also worth of consideration.