



## **Semi objective definition of Mediterranean sub regions using full temporal and spatial resolution IR geostationary observations**

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A semi objective technique to define sub regions, within the Mediterranean Area, homogeneous in terms of cloud activity is presented. Sub regions defined from this technique should allow an Eulerian approach for data analysis based on a more physically meaningful definition of area over which different cloud related variables are expected to behave consistently. The technique is based on the analyses of the spatial correlation of high frequency variability in the IR geostationary full spatial and temporal resolution observations. The set of parameters (e.g. variable, starting point, criteria to stop etc.) needed to set up the automatic procedure is discussed and examples of applications are reported.

A set of cases studies is individuated to compare the cycle of cloud cover and brightness temperatures anomalies produced by the technique within the sub-regions with lightning activity measured by ZEUS ground network. We focus our attention to daytime storms that occur over continental Europe during the warm season.