

# **Correlation of lightning activity with dynamic parameters of mesoscale systems in the Central and Eastern Mediterranean**

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The present study is devoted to the investigation of the relation between lightning activity and dynamic parameters within mesoscale storms over the Mediterranean Sea. For the study, the cloud to ground lightning activity recorded by the UK-Metoffice ATD (Arrival Time Difference) system and the analyses provided by ECMWF are used. The statistical analysis aims to identify the correlation between various thresholds of all dynamic parameters (such as geopotential height at 500 hPa, absolute vorticity advection and potential vorticity) and cloud to ground lightning activity. The comparison is performed over the Central and Eastern Mediterranean Sea for the period autumn and winter 2003-2004 and for a large number of events that were characterised by significant lightning activity.