



Satellite observed properties of isolated convective storms during their growth phase

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Deep convective storms are a fascinating but also dangerous phenomenon of the continental weather. - An improved scientific understanding of the growth process is the foundation of improving the nowcasting. To foster the understanding of how the properties of convective storms behave during the growth phase a number of isolated convective storms has been investigated. The cases have been selected using weather radar data from the German weather radar network for the year 2013. Applying the approach presented in Haberlie et al. (2015), precipitating cells have been chosen which fulfill following three criteria: (i) a radar reflectivity factor of at least 35 dBZ during their life time, (ii) a minimum life time of 30 min and (iii) a minimum distance of 15 km to already existing cells. The time step when the radar reflectivity factor was higher than 35 dBZ for the first time has been defined as the convective initiation time step. After parallax correction, the time step of convective initiation has been used as a starting point to track the cells in MSG SEVIRI satellite observations using an automatic tracking approach. From the starting point the cells have been tracked for 30 minutes forward and backward where possible to cover the growth phase. Using these tracks, the properties of the interest fields presented in Siewert et al. (2010), cloud microphysics and the cell geometry has been analysed.