This paper deals with the possibilities of convective storms' overshooting tops detection as seen from satellites. These tops are characterized by a rapid development, their size is only a few kilometres in diameter and they are connected with the presence of hazardous weather. They can be identified as small clusters of very low temperatures in satellite imagery, but this nature depends on the scan time and the scan frequency of the specific satellite and on the other features presence at tops of convective storm.
The temporal variability of minimum IR brightness temperatures at the cloud tops of selected convective storms is studied in this paper, namely on the basis of the Meteosat Second Generation (MSG) satellite datasets. But the main emphasis of this work is to analyse the influence of the operative meteorological satellites' spatial resolution on the minimal IR brightness temperature, which is related to height of the cloud top. The datasets acquired by the sensors SEVIRI, AVHRR and MODIS have been chosen for these purposes. Mostly the convective storms that occurred over the Europe in the year 2008 have been diagnosed. The scan time difference must be taken into account when datasets from MSG and the other polar orbit satellites are compared and this difference should be minimal.
The minimum IR brightness temperature data are commonly used for purposes of meteorological nowcasting, that's why the evaluation whether they are representative is appropriate.