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Estimation of hail occurrence from satellite, lightning and radar data in Croatia

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In western and central regions of Croatia, as well as Istria peninsula, hail activity is monitored by hail pads and hail observations, the analyses of which shows that these regions have a significant frequency of high-intensity hail events. On 25 June 2017 weather conditions were favorable for development of several MSC in the region, some of which organized into a squall lines, causing severe weather effects over larger portion of Croatia. Hail pad networks reported 46 records of hail all over the region introducing one of the largest number of records in one day. Hail size varied between 1 and 2 cm with exception of 2 stations recording 2.5 and 3.1 cm diameters. Since the episode covers large area and offers high number of hail pad data it is suited for testing other indirect methods for assessment of hail. We are investigating capabilities of satellite products based on HRV and colored enhanced IR 10.8 μm channels (overshooting tops, plume, cold ring...), lightning activity and lightning jump activity to estimate hail occurrence and for the first time for Croatia, inspect radar products in assessing hail intensity.