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The results of improving the algorithms for diagnosing hail on the Earth surface and its size based on the DMRL-C network and numerical prediction data are presented. The algorithms are implemented as part of an automated technology that operates in real time, with the presentation of results in a database and in the form of maps. A two-hour (relative to the observation period) animation of the diagnosed hail zones is provided. An algorithm for identifying the phase state of precipitation in a cloud is implemented, which made it possible to refine the diagnosis of hail in late spring and early autumn, rejecting cases with snow and ice pellets. The results of verifying the probability of detection of hail are given. It is concluded that the results of improving hail diagnosis using radar data will make it possible to refine data on cases of hail reaching the Earth surface in the European part of Russia, supplementing the already existing ones, according to the information of the network of meteorological and remote observations, which is also of practical importance for producing more accurate storm warnings about the occurrence of the phenomenon.

Keywords: hail, diagnosis, phase state of precipitation in a cloud, radar data, DMRL-C network, automated technology

Fig. 5. Ref. 14