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Reevaluated macroseismic map of the strongest Vrancea (Romania) earthquake occurred in 20th century

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In order to set the basis of some rigorous standards and norms of antiseismic design, capable of assuring maximum security to buildings, in accordance with the idea of promoting and developing a national system, compatible with the European standardizing systems, we initiated a very large research activity especially of reevaluating and harmonizing of the macroseismic maps of the significant earthquakes occurred on the Romanian territory. In this paper there have been reevaluated the macroseismic effects of the strongest vrancean earthquake occurred at 10th of November 1940. The reevaluating operation of the macroseismic data consisted in the reinterpretation of over 4500 macroseismic questionnaires, as well as the critical and serious research of the expertise reports, monographies, photos, scientific papers published both inside and outside the country regarding the severity of the macroseismic effects that were noticed “in situ” in the damaged areas.
The increasing intensity of the macroseismic effects towards NNE in the case of the earthquake from the 10th of November 1940, was determined by the constructive interference of the cowaves produced by successive shocks. Only by admitting that the earthquake from the 10th of November 1940 was of a multishock type, we can explain the major macroseismic effects produced in Focsani, Odobesti, Marasesti, Panciu, Barlad, as well as in the areas from the neighborhood of the source where the seismic intensity exceeded the X (MCS) degree (Lopatari, Targu Bujor, Neculele). In all these places 70% from the houses have been completely destroyed, burying a great part of the inhabitants.
Taking into consideration the geological and tectonic complexity, as well as the distribution of the seismic active areas on the Romanian territory and in the transborder areas that influence the seismicity, we considered that it is necessary, for a better graphic representation of the distribution of the macroseismic field generated by the earthquake from the 10th of November 1940, to give up to the classical method of elaborating the isoseismal maps based on the smoothing operation of the excessively agitated isoseists.