

NDC Contribution to the Regional Operational System in Support of CTBT Monitoring During 2012

Romania participates to the verification regime of the CTBT through the NDC and the IMS auxiliary seismic station Muntele Rosu, both operated by the National Institute for Earth Physics. The paper assesses the performance of the IMS at regional scale, i.e. for the Romania's territory, during 2012. A comparative analysis of the IDC products (SEL3 and REB) and the ROM NDC bulletins for the Romanian events, are presented. The common solutions in IDC and NDC bulletins are investigated in terms of epicentral location, depth, magnitude, error ellipse and number of associated phases. As a consequence of the superior coverage with seismic stations of the Romanian territory, the NDC locations are better constrained. Events located only in REB or only in NDC bulletins are analyzed as well. Yearly, over 30 Romanian events ($M_D \geq 3.5$) located only at ROM NDC may have been missed by IDC in REB bulletins. Operational output and performance of the MLR auxiliary seismic station is presented. In IDC processing, at least 5 MLR seismic phases are associated daily to REB events. RO NDC reviewed bulletins are sent on a monthly basis to the IDC, providing ground truth solutions for events located by the IDC in Romania.

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