

4.1-P10. Evaluation of the Comprehensive Nuclear-Test Ban Treaty Seismic Monitoring System Performance in the Middle East Region

The building of the IMS seismic network is reaching its final stages. The installation of 160 seismic stations out of 170 stations planned is completed. Out of the 10 non-operational stations 4 are in different stages of installation, and for 6 stations no action was done yet. Moreover, some of the installed stations has not transmitted data for several years, and therefore should be considered as non-operational too. The number of non-operational seismic IMS stations in the Middle-East Extended Region (MEER) is high relatively to worldwide distribution. The objective of this work is to assess the effect of those non-operational IMS seismic stations on the performance of the Comprehensive Nuclear-Test Ban Treaty verification regime in MEER. Comparison of the IDC products for MEER to worldwide and to local and international seismic bulletins is used as basic for analysis. Several parameters are evaluated including empirical detection threshold, first and second azimuthal gap and event scoring. A limited simulation is used in order to extend the empirical results to regions without information. It is demonstrated that the non-operational stations slightly affects the performance of the system.

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