

of the International Monitoring System Seismic, Hydroacoustic and Infrasonic Network Performance with NetMOD

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Simulating and analysing the detection capabilities of the seismic, hydroacoustic and infrasonic networks of the International Monitoring System (IMS) can contribute to the enhancement of the Treaty's verification regime and its capabilities. Simulations carried out with the Java-based tool Network Monitoring for Optimal Detection (NetMOD) allow one to evaluate the overall network performance of the IMS and assist the International Data Centre (IDC) in continuously monitoring, assessing, and reporting on the operational status. This quantifies the variations in detection capability over time and studies the impact of several parameters on the network coverage (e.g. seasonal variation, weather conditions, station noise levels, outage of key stations, period of large events). From one side, the results can help to evaluate the resilience of the network in homogeneously monitoring the globe and assist in analysing events of interest. On the other side, the results can provide input to the IMS maintenance and recapitalization by assessing the importance of a station installation or station failure on the overall performance of the network. NetMOD is developed by Sandia National Laboratories and is provided to the Provisional Technical Secretariat as a voluntary contribution in kind of the United States.

Promotional text

Evaluating the performance of the network is an opportunity to define metrics to assist in assessing the quality of processing results and bulletin production, and in estimating the impact of a station undergoing maintenance or failing.

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Oral preference format

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