ID: Type: **Oral**

2.1-O2. Detection capability estimation of the IFE14 SAMS network

The Seismic Aftershock Monitoring System (SAMS) is an important method during the initial period of an On-site Inspection (OSI) to narrow down the search area and identify the location of a possible underground nuclear explosion. A network of tripartite mini-arrays and single three-component seismic stations can be deployed during an OSI to detect and localize small aftershocks in the vicinity of a possible explosion. During IFE14 a trade-off between fast station deployment, precise site analysis and practicability from local conditions was made. A first rough site characterization was undertaken with information about geology, local facilities and infrastructure e.g. roads to select suitable sites and improve the network detection capability. Significant variations in topography of the inspection area in the mountainous Dead Sea Area of Jordan led to considerable limitations concerning the network design. A comprehensive and analytical method to estimate the SAMS network detection capability will be presented which is based on noise measurements from SAMS stations. Results from this analysis would enable inspectors to adapt the network configuration to the needs by densifying the network or relocating stations. Additionally this systematic quality control enables inspectors to identify system failures and manipulation at the seismic stations.

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Track Classification: 2. Events and their characterization