

# results of the 1st Nuclear Explosion Signal Screening Open Inter-Comparison Exercise 2021

*Wednesday, 21 June 2023 13:30 (30 minutes)*

The 1st Nuclear Explosion Signal Screening Open Inter-Comparison Exercise 2021 was conducted from the end of 2021 to the end of 2022. The exercise evaluated different screening methods and procedures to identify radioxenon detections not consistent with the radioxenon background from civil nuclear facilities. It was based on a subset of a radioxenon test data set produced for the whole year of 2014 with hypothetical nuclear underground and underwater explosion signals added to IMS observations.

The exercise considered three levels of participation requiring different levels of expertise: 1) Level 1 (basic, ATM expertise only), for which participants provided simulated radioxenon background time series at the 23 IMS stations defined in the test data set to be used as input for screening based on a set of predefined metrics covering detection, screening, and timing powers; 2) Level 2 (ATM and/or radionuclide expertise), for which, in addition to Level 1, participants provided their own screening methods and results for detection, screening, and timing powers; and 3) Level 3 (higher-level ATM and statistical expertise), for which, in addition to Level 2, results were provided for location and magnitude estimates for a few selected test cases.

Final results of the exercise will be shown.

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## Promotional text

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## Oral preference format

in-person

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**Session Classification:** Panel discussion on noble gas monitoring

**Track Classification:** Invited talks