

T3.1-P20. Noble Gas sampling and field laboratory for On-Site Inspections in Support of CTBT

The On-Site Inspections (OSI) constitute the final verification measure under the CTBT and the Treaty lists all permitted activities and techniques. One of these is the environmental sampling of noble gases (NG), which can be deployed at any time during an OSI. For the CTBT relevant radioactive noble gas isotopes are Xe-133, 133m, 131m, 131 and Ar-37, specialized equipment is developed for their collection, processing and detection during an OSI and for the stringent procedures to ensure the security, integrity and confidentiality of the samples and data. Over the past decade the techniques for NG sampling, processing and analysis have been developed further in order to fit the OSI conditions and requirements. This has been a major international effort with a global set of collaborators. Especially as of 2011 the efforts intensified in order to finalize the scientific and technical developments of the OSI NG sampling regime and Field Laboratory for the first ever deployment under OSI conditions during CTBTO's Integrated Field Exercise 2014. This presentation will describe the current status as well as an outlook on future technical developments for NG detections in OSI based on the first conclusions from the last development cycle.

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