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## **Analysis of radioxenon at CTBTO noble gas systems**

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Noble gas systems were developed for use under the Comprehensive Nuclear-Test-Ban Treaty (CTBT) at 40 of the 80 CTBT-specified radionuclide stations within the International Monitoring System (IMS). Operated technologies use HPGe and beta-gamma coincidence-based detection systems.

Noble gas systems process air to extract and measure the radioactive isotopes of xenon that are most likely to be released after a nuclear explosion (Xe-131m, Xe-133, Xe-133m and Xe-135).

One of the CTBTO achievements over the last decade was the certification of 26 noble gas stations.

Daily spectral data from certified stations are analysed in the International Data Centre (IDC) operations, with dedicated software tools for automatic processing and interactive review.

A 3-level based sample categorization scheme is used as a first screening layer of CTBT relevant xenon isotopes

Automated and reviewed products are generated and made available to Member States via secured access mechanisms.

IDC reviewed results over a long-term period at various locations further contributed to a reliable characterization for better understanding the worldwide background of xenon isotopes.

The presentation aims at presenting data processing pipeline and achieved analysis results.

**Primary author:** GHEDDOU, Abdelhakim (CTBTO)

**Co-author:** Mr KALINOWSKI, Martin (CTBTO)

**Presenter:** GHEDDOU, Abdelhakim (CTBTO)

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