



ID: P2.4-421

Type: e-Poster

## of radioxenon global background between 2015 and 2020

*Wednesday, 30 June 2021 09:45 (15 minutes)*

Worldwide monitoring of radioxenon is a necessary component of the International Monitoring System (IMS) of the Comprehensive Nuclear-Test-Ban Treaty (CTBT). The current IMS design foresees 40 radioxenon stations around the world to provide a 90 % detectability of a 1 kt nuclear explosions within 14 days. Radioxenon stations have the capability to measure four radioxenon isotopes;  $^{131}\text{mXe}$ ,  $^{133}\text{Xe}$ ,  $^{133}\text{mXe}$ , and  $^{135}\text{Xe}$ . The discrimination between radioxenon emission from civil sources and xenon released from a nuclear explosion is achieved by analyzing different ratios between the four xenon isotopes. In the present work, we systematically study the development of the four Xe isotopes background between 2015 and 2020, and its geographical distribution according to the measurements from the IMS stations.

### Promotional text

The Evolution of the four Xe isotopes background between 2015 and 2020 is analyzed, and its geographical distribution according to the measurements from the IMS stations is described.

**Primary author:** Mr ELBAHRAWY, Mohammed Yehia Taha Ahmed (National Research Institute of Astronomy and Geophysics (NRIAG), Helwan, Egypt)

**Co-author:** Mr MEKHAIMER, Sayed (National Research Institute of Astronomy and Geophysics (NRIAG), Helwan, Egypt)

**Presenter:** Mr ELBAHRAWY, Mohammed Yehia Taha Ahmed (National Research Institute of Astronomy and Geophysics (NRIAG), Helwan, Egypt)

**Session Classification:** T2.4 e-poster session

**Track Classification:** Theme 2. Events and Nuclear Test Sites: T2.4 - Atmospheric and Subsurface Radionuclide Background and Dispersion