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## Characterization of radioxenon global background between 2015 and 2020

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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;  $^{131m}\text{Xe}$ ,  $^{133}\text{Xe}$ ,  $^{133m}\text{Xe}$ , 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.

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