



ID: P2.3-416

Type: E-poster

of Xe-133 activity concentration background in the Northern and Southern Hemispheres

This study is about radion xenon Xe-133 background in the Southern and Northern hemispheres and to discuss the influence of this context on nuclear test identification.

The study was carried out in four CTBTO stations in Northern and Southern hemispheres. They were chosen taking into account NPPs and medical facilities close the stations. Data was extracted from Review Radionuclide Report (RRR) through RN Toolkit in a period of ten years, from 2014 to 2024.

Data of different stations was separated by seasons and split depending on the level of activity concentration of Xe-133, as well as was differentiated for both hemispheres. Results show that the Xe-133 activity concentration in the Southern Hemisphere is lower than in the Northern one. After Covid-19 pandemic the background of Xe-133 in the Southern Hemisphere raised due to the increase of radiopharmaceuticals production. The Northern Hemisphere exhibits a complex radion xenon environment due to the proximity of nuclear power plant reactors and research reactors.

Climatic and environmental differences between both hemispheres and also NPP define the radion xenon background.

E-mail

begona.perez@ciemat.es

In-person or online preference

Primary authors: PÉREZ LÓPEZ, Begoña (Centro de Investigaciones Energéticas, Medioambientales y Tecnológicas (CIEMAT)); Mr BONFIM, Carlos Eduardo (Army Technological Center, Brazil)

Co-author: CAVEDA RAMOS, Celia Angelica (Center for Radiation Protection and Hygiene)

Presenter: PÉREZ LÓPEZ, Begoña (Centro de Investigaciones Energéticas, Medioambientales y Tecnológicas (CIEMAT))

Session Classification: P2.3 Atmospheric and Subsurface Radionuclide Background and Dispersion

Track Classification: Theme 2. Monitoring events and Nuclear Test Sites: T2.3 Atmospheric and Subsurface Radionuclide Background and Dispersion