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Atmospheric Transport of the Noble Gas Emissions as Seen Through CTBT Monitoring

The International Monitoring System (IMS) developed by the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO) is a global system of monitoring stations, using four complementary technologies: seismic, hydroacoustic, infrasound and radionuclide. Data from all IMS stations are collected and transmitted to the International Data Centre (IDC) in Vienna, Austria. The radionuclide network comprises 79 stations, of which more than 60 are certified and send data. The aim of radionuclide stations is a global monitoring of radioactive aerosols, radioactive noble gases, in particular xenon isotopes, supported by atmospheric transport modeling (ATM). The aim of this study is to investigate the transport of xenon emissions using the atmospheric transport modelling system based on the Lagrangian Particle Dispersion Model FLEXPART. The influence of convection on the long and short-range transport is discussed. The modelling results are compared with the measurements.

Primary author: KUSMIERCZYK-MICHULEC, Jolanta (CTBTO Preparatory Commission)

Presenter: KUSMIERCZYK-MICHULEC, Jolanta (CTBTO Preparatory Commission)

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