ID: Type: **Oral**

# of all nuclear research reactors to the global radioxenon emission inventory

Monday, 24 June 2019 16:15 (15 minutes)

Radioactive xenon isotopes provide the most likely observable radioactive signatures of underground nuclear explosions. These isotopes are frequently detected by IMS noble gas systems as a result of normal operational releases from different types of nuclear facilities including nuclear power plants (NPPs) and medical isotope production facilities (MIPFs), reprocessing facilities and nuclear research reactors (NRRs). Improving the knowledge about the impact of different emission sources on IMS observations leads to strengthen the screening of radioxenon detection results. The contribution of NPPs and MIPFs to the global radioxenon emission inventory is fairly well understood. NRRs are the only source type of which contributions to IMS observations have not yet been systematically assessed. This study is the first attempt to assess the total emission inventory of nuclear research reactors expressed as annual total discharges. The results can be used for guiding future studies and enhancing the understanding of the impact of known sources on the IMS background observations.

Primary author: TAYYEBI, Pouneh (Iran Nuclear Regulatory Authority)

Presenter: TAYYEBI, Pouneh (Iran Nuclear Regulatory Authority)

Session Classification: T2.4 Atmospheric and Subsurface Radionuclide Background and Dispersion

Track Classification: Theme 2. Events and Nuclear Test Sites