

2.4-P06. Improved simulations of the radioxenon background through stack monitoring data

The IMS noble gas network, consisting of 40 monitoring stations, is affected by the radioxenon background mainly produced by medical isotope production facilities. Monitoring stations that are located downwind from such facilities detect radioxenon on a regular basis. These radioxenon concentrations from legitimate sources can potentially mask signals from nuclear tests. In this work it is examined how the access to stack monitoring data of radioxenon emissions improves the understanding of the background. Atmospheric transport modelling is applied to calculate the dispersion of emissions from the medical isotope production facility ANSTO in Sydney, Australia. Long-term stack emission data of different time resolutions are used. The resulting simulated time series of radioxenon concentrations at IMS monitoring stations are compared with experimental data. Suitable statistical parameters are identified and calculated for this analysis.

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