ID: **P2.4-370**   Type: **E-poster**

a Radioxenon Sensor Array to the North of England

Thursday, 22 June 2023 11:28 (1 minute)

As part of the Xenon Environmental Monitoring at Hartlepool (XENAH) collaboration, a team of scientists from the UK, US and Sweden have deployed three radioxenon sampling and measurement systems to the north of England, near to the Hartlepool Power Station. The power station comprises two 1600 MW(th) advanced gas-cooled nuclear reactors. The array of SAUNA QB ("cube") radioxenon measurement systems have been in operation since March 2022 and have detected Xenon-133, Xenon-131m and Xenon-133m – isotopes of Xenon that can be used as key indicators of a nuclear explosion. This collaboration seeks to better understand the impact of civil nuclear reactors on the global radioxenon background. This regional array of sensors offers improved location reconstruction accuracy when compared to global networks, such as the International Monitoring System of the Comprehensive Nuclear-Test-Ban Treaty. This work will present the latest information from the XENAH QB array, including an in-depth radionuclide and atmospheric transport modelling analysis of the array sensor data.

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Promotional text

An array of radioxenon sampler/measurement systems has been deployed near to Hartlepool Nuclear Power Station in the North of England. This talk details the results of the 12-month campaign.

Oral preference format

in-person

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Session Classification: Lightning talks: P2.4

Track Classification: Theme 2. Events and Nuclear Test Sites: T2.4 Atmospheric and Subsurface Radionuclide Background and Dispersion