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Method Validation for Using the Best Fitting Parameters in Simulating the Source Term of Radioxenon Generated by Neutron Activation

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Recent studies emphasize neutron activation as a source of radioxenon emission which needs to be considered as contributing to the atmospheric radioxenon background. Since activation products have different isotopic ratios than radioxenon from fission, taking activation into consideration impacts on the determination of the origin of radioxenon detected by the International Monitoring System. The parameters that need to be used for simulations of the activation source include the neutron energy spectrum, the activation cross-section, neutron flux, irradiation time and retention time. Any difference in these parameters changes the resulting isotopic ratios. In this presentation all these parameters are investigated and the most suitable of them are introduced for future studies.

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Promotional text

Taking neutron activation into consideration as a source of radioxenon emission impacts on the determination of the origin of radioxenon detected by the International Monitoring System. What parameters are important to be considered in neutron activation and how?

Oral preference format

in-person

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