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Update of the Evaluated Radioxenon Nuclear Decay Data

Precise and high-quality decay data of radioxenon nuclei are fundamental for the CTBT. Radioactive decay quantities, such as half-life, gamma-ray emissions (intensities and energies), internal conversion coefficients, X-ray energies, conversion electron and Auger electron emissions, branching ratios of the decay modes, are used in the analysis of spectral data from the noble gas monitoring systems, or in detector's calibration, or in isotope ratios calculations carried out to distinguish if detected radioxenons are generated during a nuclear explosion or a nuclear reactor operation. Therefore, precise and well evaluated nuclear decay data are crucial to be provided by the CTBTO radionuclide library. This work presents the last updated evaluations of the nuclear and decay data of some radioxenons. This includes the most recent measured values of the half-life and internal conversion coefficients. The evaluation procedure has been made within the Decay Data Evaluation Project framework and using the ultimate available versions of different nuclear and atomic data evaluation software tools.

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