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CHARACTERIZATION OF URANIUM-THORIUM WASTE

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Declaration of uranium and thorium isotopic content is of utmost importance in safeguard and IAEA agency including the uranium enrichment. Gamma spectroscopy is currently the most preferred methodology in safeguards due to none destructive nature. Historical 360 L drums that cannot be characterized using the IQ-3 drum scanner have become a challenge not only by size but also by density, and weight. ISOCS (In Situ Objective Counting System) has profoundly become the only solution; however, what is the total uncertainty of the measurements? With application of gamma spectroscopy what is the uncertainty distribution? What version of MGA-U can offer reliable enrichment data for such combination of vital safeguarded materials?

Keywords: Uranium, Thorium, Safeguards, IAEA, Gamma spectroscopy, ISOCS, MGA-U

Apply to be considered for a student award (Yes / No)?

yes

Level for award (Hons, MSc, PhD, N/A)?

PhD

Would you like to submit a short paper for the Conference Proceedings (Yes / No)?

no

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