

EURADOS ²⁴¹Am Skull Measurement Intercomparison

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In 2011 a measurement intercomparison was launched by EURADOS WG7, with the objective of providing the participants with the tools to calibrate their detection systems for detection of ²⁴¹Am in the skull bone, and evaluate the variability due to the used of the different calibration phantoms. Three skull phantoms were used in this intercomparison: the USTUR Case 0102 skull phantom, the BfS skull phantom and the CSR skull phantom. Very good agreement was found between the results of the twelve participating laboratories, with relative deviations of less than 15% for the BfS phantom and less than 17% for the USTUR phantom when measurement efficiency in defined positions was compared. However, the phantoms' measured absolute ²⁴¹Am activities showed discrepancies of up to a factor of 3.4. This is mainly due to the physical differences between the standard calibration phantoms used by the participants and those used in this intercomparison exercise.

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