

## **T3.2-P22. Xenon inter-comparison exercises with traceable activity concentration standards**

Preparation methods for traceable xenon standards and the results of the 2014 Xenon laboratory intercomparison exercise are presented. One element of the quality assurance/quality control (QA/QC) program for Noble Gas systems of the IMS Radionuclide network will be based on sample re-analyses at IMS laboratories. In order to ensure the credibility of IMS laboratories as providers of reference results, these laboratories will require certification as well as participation in a QA/QC program. Part of the laboratory QA/QC program will be regular intercomparison exercises. The quantity measured at laboratories is the activity concentration (e.g.  $^{133}\text{Xe}/(\text{stable xenon})$  in Bq/ml). However, until recently activity concentration standards which are traceable to international reference standards were unavailable. Consequently, previous inter-comparisons between laboratories lacked references values for benchmarking. Therefore, two Xe-133 activity concentration traceable reference standards were produced independently and used for the 2014 Xenon laboratory intercomparison exercise.

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