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COMPARISON OF INTERCOMPARISON RESULTS OF GAMMA RAY SPECTROMETRY OF SPIKED AND REAL SAMPLES



Denis Glavič-Cindro

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ACCEPTED MANUSCRIPT COMPARISON OF INTERCOMPARISON RESULTS OF GAMMA RAY SPECTROMETRY OF SPIKED AND REAL SAMPLES

Denis Glavič-Cindro¹

Jožef Stefan Institute, Jamova cesta 39, SI-1000 Ljubljana, Slovenia

Abstract

The quality and comparability of results of different comparison schemes depend strongly on how the samples were prepared and how the reference values were determined. To test the influence of different approaches to preparing comparison samples and determination of reference values on the final evaluation of participants' results, analyses of S-shapes for Cs-134 and Cs-137 in different comparison schemes in time period 1986–2016 were performed. This study pointed out significant improvement in the quality of performance of comparison tests of selected providers.

Keywords: comparisons, proficiency tests, reference value, high resolution gamma-ray spectrometry, environmental samples, radioactivity, artificial radionuclides, Cs-134, Cs-137, S-shape

1. Introduction

Laboratories engaged in measurements of activities of gamma-ray emitters with high resolution gamma-ray spectrometry in samples from the living and working environment,

¹ Corresponding author. Tel.: + 386 1 4773 293; fax: + 386 1 251 93 85

E-mail address: denis.cindro@ijs.si

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