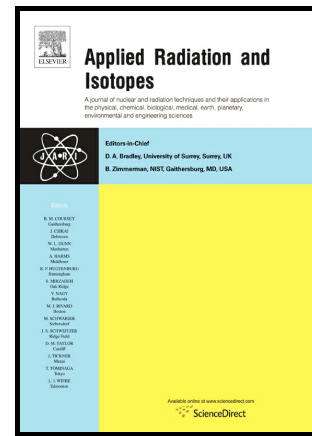


# Author's Accepted Manuscript

## COMPARISON EXERCISE ON ACTIVITY DETERMINATION OF RADIOACTIVE WASTE DRUMS IN TAIW

Wei-Han Chu, Chin-Hsien Yeh, Ming-Chen Yuan



[www.elsevier.com/locate/apradiso](http://www.elsevier.com/locate/apradiso)

PII: S0969-8043(15)30322-5

DOI: <http://dx.doi.org/10.1016/j.apradiso.2015.11.088>

Reference: ARI7271

To appear in: *Applied Radiation and Isotopes*

Received date: 10 April 2015

Accepted date: 25 November 2015

Cite this article as: Wei-Han Chu, Chin-Hsien Yeh and Ming-Chen Yuan, COMPARISON EXERCISE ON ACTIVITY DETERMINATION OF RADIOACTIVE WASTE DRUMS IN TAIW, *Applied Radiation and Isotopes* <http://dx.doi.org/10.1016/j.apradiso.2015.11.088>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting galley proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

# COMPARISON EXERCISE ON ACTIVITY DETERMINATION OF RADIOACTIVE WASTE DRUMS IN TAIWAN

Wei-Han Chu<sup>1</sup>, Chin-Hsien Yeh, Ming-Chen Yuan

*Health Physics Division, Institute of Nuclear Energy Research, 1000 Wenhua Rd. Jiaan Village, Longtan District, Taoyuan City 32546, Taiwan (ROC)*

## Abstract

The National Radiation Standard Laboratory of Taiwan organized in 2014 a comparison exercise by distributing 210 L drum-typed samples to seven radioactive waste analysis laboratories in Taiwan. Four drums were filled with uniformly distributed active carbon, water, resin and concrete, respectively and five drums were filled with cracked metals and heterogeneously distributed radioactive sources. Measurement uncertainties of participants results are in the range 3 % - 40 % ( $k=2$ ) and about 96 % of the reported results produced  $E_n$  values (ISO, 1997) smaller than one for drums with activity uniformly distributed. The minimum discrepancies, expressed as  $B_i$  values (ISO, 1997), of drums with heterogeneously distributed  $^{137}\text{Cs}$  and  $^{60}\text{Co}$  were 0.34 and 0.17, respectively.

Keywords: HPGe detector; comparison exercise; radioactive waste; testing drums

## 1. Introduction

Radioactive waste produced by nuclear power plants or nuclear facilities is

<sup>1</sup> Corresponding author. Fax: + 886 3 471 3489, E-mail: [weihan@iner.gov.tw](mailto:weihan@iner.gov.tw)

Download English Version:

<https://daneshyari.com/en/article/8209311>

Download Persian Version:

<https://daneshyari.com/article/8209311>

[Daneshyari.com](https://daneshyari.com)