

## Recent publications of the PCI-Chemistry Unit of the IAEA Seibersdorf Laboratories

### 2007

K. M. Matthews, C. Kim, P. Martin (2007), Determination of  $^{210}\text{Po}$  in environmental materials: A review of analytical methodology, *Applied Radiation Isotopes*, 65, 267-279.

A. Shakhashiro, A. Fajgelj, U. Sansone (2007), Comparison of different approaches to evaluate proficiency test data. Proceeding of the International APAT-IUPAC Workshop "Combining and Reporting Analytical data Results: The role of traceability and uncertainty for comparing analytical results", Rome (Italy) 6-8 March 2006.

H. R. Velasco, M. Rizzotto, M. Belli, N. Merkis, M. Belli, U. Sansone (2007), Contribution to the external gamma dose rate from  $^{137}\text{Cs}$  and  $^{40}\text{K}$  activity concentrations determined in the vertical profile of sandy beaches, *Journal of Radioanalytical and Nuclear Chemistry*, Vol. 273, 2, 395-399.

S. Gaudino, C. Galas, M. Belli, S. Barbizzi, P. de Zorzi, R. Jacimovic, Z. Jeran, A. Pati, U. Sansone (2007), The role of different soil sample digestion methods on trace elements analysis: a comparison of ICP-MS and INAA measurement results, *Accreditation and Quality Assurance*, DOI 10.1007/s00769-006-0238-1.

A. Shakhashiro, A. M. Gondin da Fonseca Azaredo, U. Sansone, A. Fajgelj (2007), Matrix materials for proficiency testing: optimization of procedures for spiking soil with gamma emitting radionuclides, *Anal Bioanal Chem*, DOI 10.1007/s00216-006-0772-z.

M. Belli, S.L.R. Elisson, A. Fajgelj, Y. Kusselman, U. Sansone, W. Wegschieder (2007), Implementation of proficiency testing schemes for a limited number of participants, *Accreditation and Quality Assurance*, DOI 10.1007/s00769-006-0247-0.

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B. Ryan, A. Bollhöfer, P. Martin (2008), Radionuclides and metals in freshwater mussels of the upper South Alligator River, Australia, *Journal of Environmental Radioactivity*, 99, 509-526.

A. Bollhöfer, K. Pfitzner, B. Ryan, P. Martin, M. Fawcett, D.R. Jones (2008), Airborne gamma survey of the historic Slesbeck mine area in the Northern Territory, Australia, and its use for site rehabilitation planning, *Journal of Environmental Radioactivity*, 99, 1770-1774.

S.A. Geras'kin, S.V. Fesenko, R.M. Alexakhin (2008), Effects of non-human species irradiation after the Chernobyl NPP accident, *Environmental International*, 34, 880-897.

M.K. Pham, J.A. Sanchez-Cabeza, P.P. Povinec, K. Andor, D. Arnold, M. Benmansour, I. Bikit, F.P. Carvalho, K. Dimitrova, Z.H. Edrev, C. Engeler, F.J. Fouche, J. Garcia-Orellana, C. Gasco, J. Gastaud, A. Gudelis, G. Hancock, E. Holm, F. Legarda, T.K. Ikäheimonen, C. Ilchmann, A.V. Jenkinson, G. Kanisch, G. Kis-Benedek, R. Kleinschmidt, V. Koukoulidou, B. Kuhar, J. LaRosa, S.

–H. Lee, G. LePetit, I. Levy-Palomo, L. Liong Wee Kwong, M. Llauradó, F.J. Maringer, M. Meyer, B. Michalik, H. Michel, H. Nies, S. Nour, J.-S. Oh, B. Oregioni, J. Palomares, G. Pantelic, J. Pfitzner, R. Pilvio, L. Puskeiler, H. Satake, J. Schikowski, G. Vitorovic, D. Woodhead, E. Wyse (2008), A new certified reference material for radionuclides in Irish sea sediment (IAEA-385), *Applied Radiation Isotopes*, 66, 1711-1717.

C.-K. Kim, P. Martin, A. Fajgelj (2008), Quantification of measurement uncertainty in the sequential determination of  $^{210}\text{Pb}$  and  $^{210}\text{Po}$  by liquid scintillation counting and alpha-particle spectrometry, *Accred. Qual. Assur.*, 13, No. 12, 691-702.

E.M. Scott, P. Dixon, G. Voigt, W. Whicker (2008), Choice and criteria for selection of sampling strategies in environmental radioactivity monitoring, *Applied Radiation Isotopes*, 66, 1575-1581.

A. Shakhashiro, A. Trinkl, U. Sansone (2008), The IAEA's ALMERA network proficiency test on the determination of gamma-emitting radionuclides: A test of results comparability, *Applied Radiation Isotopes*, 66, 1722-1725.

U. Sansone, C.-K. Kim, G. Kis-Benedek, R. Schorn, E. Zeiller, A. Qeribov, V. Huseynov, A. Chupov (2008), Natural and anthropogenic radionuclides in the rivers of Azerbaijan, *J. Radioanal. Nucl. Chem.*, 227, No. 2 357-364.

A. Shakhashiro, U. Sansone, D. Arnold, P. Dryak, J. LaRosa, S.M. Jerome, M. Makarewicz, J. Mencheva, K. Sato, S. Tarjan (2008), The new IAEA-372 grass-certified reference material for  $^{40}\text{K}$  and  $^{137}\text{Cs}$ , *Applied Radiation Isotopes*, 66, 1718-1721.

A. Fajgelj, M.J. Campbell, M. Gröning, P. Martin, J.R. Oh, M.K. Pham, J. Sanchez-Cabeza, U. Sansone, A. Shakhashiro, J. Villeneuve, G. Voigt, E. Zeiller (2008), IAEA report to ISO REMCO 2008.

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M.V. Perk, P.D. Zorzi, S. Barbizzi, M. Belli, A. Fajgelj, U. Sansone, Z. Jeran, R. Jacimovic (2008), The effect of short-range spatial variability on soil sampling uncertainty, *Applied Radiation Isotopes*, 66, 1582-1587.

H. Velasco, J. J. Ayub, U. Sansone (2008), Analysis of radionuclide transfer factors from soil to plant in tropical and subtropical environments, *Applied Radiation Isotopes*, 66, 1759-1763.

P.D. Zorzi, S. Barbizzi, M. Belli, M. Barbina, A. Fajgelj, R. Jacimovic, Z. Jeran, S. Menegon, A. Pati, G. Petruzzelli, U. Sansone, M. V. Perk (2008), Estimation of uncertainty arising from different soil sampling devices: The use of variogram parameters, *Chemosphere*, 70, 745-752.

## 2009

- Y.C. Wong, D.W.M. Sin, Y.C. Yip, L. Valiente, A. Toerwenyi, J. Wang, G. Labarraque, P. Gupta, D. Soni, Surmadi, E. Hwang, C. Yafa, O. Cankur, E. Uysal, G. Turk, R. Huertas (2009), International comparison of the determination of cadmium and lead in herb: the Comité Consultatif pour la Quantité de Matière (CCQM) pilot study CCQM-P97, *Accred. Qual. Assur.*, 14, 151-158.
- B.J. Howard, N.A. Beresford, C.L. Barnett, S. Fesenko (2009), Radionuclide transfer to animal products: revised recommended transfer coefficient values, *J. Environ. Radioactivity*, 100, 263-273.
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- C.-K. Kim, M. H. Lee, P. Martin (2009), Method validation of a procedure for determination of  $^{210}\text{Po}$  in water using DDTC solvent extraction and Sr resin, *J. Radioanal. Nucl. Chem.*, 279, No. 2, 639-646.
- C.E. Lawrence, R.A. Akber, A. Bollhöfer, P. Martin (2009), Radon-222 exhalation from open ground on and around a uranium mine in the wet-dry tropics, *J. Environ. Radioactivity*, 100, 1-8.
- A. Shakhashiro, L. Mabit (2009), Results of an IAEA inter-comparison exercise to assess  $^{137}\text{Cs}$  and total  $^{210}\text{Pb}$  analytical performance in soil, *Applied Radiation Isotopes*, 67, 139-146.
- N. Vajda, A. Toerwenyi, G. Kis-Benedek, C.K. Kim (2009), Development of extraction chromatographic separation procedures for the simultaneous determination of actinides, *Radiochim. Acta*, 97 9-16.
- G. Voigt, S. Fesenko (2009), Remediation of contaminated environments, *Radioactivity in the environment*, 14.
- M. Rizzotto, J. Toso, H. Velasco, M. Belli, U. Sansone (2009), Temporal reduction of the external gamma dose rate due to  $^{137}\text{Cs}$  mobility in sandy beaches, *J. Radioanal. Nucl. Chem.*, 280, 193-197.
- H. Velasco, J.J. Ayub, U. Sansone (2009), Influence of crop types and soil properties on radionuclide soil-to-plant transfer factors in tropical and subtropical environments, *J. Environ. Radioactivity*, 100, 733-738.
- A. Shakhashiro, U. Sansone (2009), Radionuclide activity measurements in environmental samples of water, soil and grass: CCRI(II)-S4 comparison report, *Metrologia*, 46, No 1A (Technical Supplement 2009, 06004).