

INSTITUTUL NATIONAL DE CERCETARE-DEZVOLTARE PENTRU FIZICA SI
INGINERIE NUCLEARA HORIA HULUBEI (HORIA HULUBEI NATIONAL
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BUCHAREST, ROMANIA

LIST OF PUBLICATIONS
2009 – 2013

a). Articles published in International Journals, Thomson Reuters (ISI), Philadelphia, USA, Quoted

1. M.Sahagia, A.Antohe, A.Luca, A.C.Waetjen, C.Ivan. *The Support Offered by the Romanian Primary Activity Standard Laboratory to the Nuclear Medicine Field.* Rom J.Phys.Vol. 58, 1-2 (2013) in press
2. A.Luca, M.-C. Lépy. *Measurements of relative photon emission intensities and nuclear decay data evaluation of Sn-113.* Appl. Radiat Isot. 70, 9(2012)1881-1885
3. U. Wätjen, T. Altzitzoglou, A. Ceccatelli, H. Dikmen, H. Emteborg, L. Ferreux, C. Frechou, J. La Rosa, A. Luca, Y. Moreno, P. Oropesa, S. Pierre, M. Schmiedel, Y. Spasova, Z. Szántó, L. Szücs, H. Wershofen, Ü. Yücel. *Results of an international comparison for the determination of radionuclide activity in bilberry material”,* Appl. Radiat. Isot. 70, 9(2012)1843-1849
4. A.Stochioiu, M Sahagia, I.Tudor. *Area dosimetry in the Praid-salt mine.* Radiation Protection Dosimetry, 151,1 (2012)129-134
5. A.Luca, M.Sahagia, A.Antohe. *Measurement of Cu-64 and Ga-68 half-lives and gamma-rays emission intensities.* Appl. Radiat. Isotopes 70, 9(2012)1876-1880
6. A.Stochioiu, A.Luca, M.Sahagia, R.M.Margineanu, I.Tudor *Quality assurance for measurements of the radioactivity in the area of the "Horia Hulubei" National Institute for Physics and Nuclear Engineering, IFIN-HH* Journal of Environmental Radioactivity 112(2012) 4-7
7. B.E.Zimmerman, T.Altzizoglou, A.Antohe, A.Arinc, E.Bakhshandear, D.E.Bergeron, L.Bignell, C.Bobin, M.Capogni, J.T.Cessna, M.L.Cozzella, C.J.da Silva, P.de Felice, M.S.Dias, T.Dziel, A.Fazio, R.Fitzgerald, A.Iwahara, F.Jaubert, L.Johansson, J.Keightley, M.F.Koskinas, K.Kossert, J.Lubbe, A.Luca, L.Mo, O.Nahle, O.Ott, J.Paepen, S.Pomme, M.Sahagia, B.R.S. Simpson, F.F.V.Silva, R.van Ammel, M.J.van Staden, W.M.van Wyngaardt, I.M.Yamazaki. *Results of an international comparison for the activity measurement of Lu-177.* Appl. Radiat. Isot. 70, 9(2012)1825-1830
8. M. Sahagia, A. Luca, A. Antohe, C. Ivan. *Standardization of ^{64}Cu and ^{68}Ga by the $4\pi\text{PC-}\gamma$ coincidence method and calibration of the ionization chamber.* Appl. Radiat. Isotopes 70, 9 (2012)2025-2030
9. M.-M. Bé, P. Cassette, M.C. Lépy, M.-N. Amiot, K. Kossert, O.J. Nähle, O. Ott, C. Wanke, P. Dryak, G. Ratel, M. Sahagia, A. Luca, A. Antohe, L. Johansson, J. Keightley, A. Pearce. *Standardization, decay data measurement and evaluation of ^{64}Cu .* Appl. Radiat. Isotopes 70, 9 (2012)1894-1899
10. D. Stanga. *Numerical modeling of large-area beta sources constructed from anodized-aluminum foils.* Applied Radiation and Isotopes, Vol. 70, 9 (2012) 1955-1958
11. D. Stanga, D. Gurau. *A new approach in gamma-ray scanning of rotating drums containing radioactive waste,* App. Radiat Isot. Vol.70,9 (2012) 2149-2153

12. A. Luca, B. Neacsu, A. Antohe, M. Sahagia. *Calibration of the high and low resolution Gamma-ray spectrometers*. Romanian Reports in Physics 64,4(2012)968-972
13. M.A. Kellett, M.-M. Be, V. Chechev, X. Huang, F.G. Kondev, A. Luca, G. Mukherjee, A.L. Nichols, A. Pearce. *New IAEA actinide decay data library*. Journal of the Korean Physical Society, 59 (23), pp. 1455-1460, 2011.
15. M. Sahagia, A. Antohe, A. Luca, C. Ivan. *Results of proficiency tests on the measurement of volume radioactive sources from the mixture ^{134}Cs and ^{137}Cs* . Rom. Rep in Phys., 63, Supplement (2011) 1195-1204
16. M. Sahagia, A. Luca, A.C. Watjen, A. Antohe, C. Ivan, D. Stanga, C. Varlam, I. Faurescu, L. Toro, M. Noditi, P. Casette. *Results obtained in measurements of Rn-222 with the Romanian standard system*. Rom. Journ. Phys. 56,5-6 (2011) 682-691
17. A. Stochioiu, S. Bercea, M. Sahagia, C. Ivan, I. Tudor, A. Celarel. *The measurement of the natural radiation background in a salt mine*. Rom. Journ. Phys. 56,5-6 (2011)757-761
18. M. Sahagia, A. Luca, A. C. Wätjen, A. Antohe, C. Ivan, C. Varlam, I. Faurescu, P. Casette. *Establishment of the ^{222}Rn traceability chain with the Romanian Standard System*. Nuclear Instruments and Methods A 631 (2011) 73-79
19. D. Stanga, F.J. Maringer, E. Ionescu. *A new method for determining the efficiency of large-area beta sources constructed from anodized aluminum foils*. Appl. Radiat. Isotopes 69 (2011) 227–230.
20. B. Chauvenet, M.-M. Be, M.-N. Amiot, C. Bobin, M.-C. Lepy, T. Branger, I. Laniece, A. Luca, M. Sahagia, A.C. Watjen, K. Kossert, O. Ott, O. Nahle, P. Dryak, J. Sochorova, P. Kovar, P. Auerbach, T. Altizoglou, S. Pomme, G. Sibbens, R. Van Ammel, J. Paepen, A. Iwahara, J.V. Delgado, R. Poledna, C.J. da Silva, L. Johansson, A. Stroak, C. Bailat, Y. Nedjadi, P. Spring. *International exercise on Sb-124 activity measurement*. Appl. Rad. Isotopes. 68(2010)1207-1210
21. A. Luca, A.C. Wätjen, E.L. Grigorescu, M. Sahagia, C. Ivan. *Conclusions from the Participation at Proficiency Tests for Gamma-Ray Spectrometry Measurements*. Romanian Journal of Physics, ISSN 1221-146X, Vol 55, 7-8 (2010) 724-732.
22. M. Sahagia, A.C. Wätjen, A. Luca, C. Ivan. *IFIN-HH ionization chamber calibration and its validation; electrometric system improvement* Appl. Radiat. Isot. 68(2010) 1266 – 1269
23. A. Luca. *Evaluation of Th-234 nuclear decay data*. Appl. Radiat. Isot. 68(2010)1591-1594
24. M.-M. Be, B. Chauvenet, M.-N. Amiot, C. Bobin, M.-C. Lepy, T. Branger, I. Laniece, A. Luca, M. Sahagia, A.C. Watjen, K. Kossert, O. Ott, O. Nahle, P. Dryak, J. Sochorova, P. Kovar, P. Auerbach, T. Altizoglou, S. Pomme, G. Sibbens, V. Van Ammel, J. Paepen, A. Iwahara, J.U. Delgado, R. Poledna. *International exercise on Sb-124 photon emission determination*. Appl. Radiat. Isotopes, 68,10 (2010) 2026-2030
25. V.N. Borza, E. Neacsu, C. Mustaciosu, A. Luca, C. Barna, N. Popescu, I. Mercioniu, P. Albert, A. Hurduc, L. Moldovan, G.P. Savi, I. Savi, L. Matei, *Rhenium-188 labelled albumin microspheres for therapy of liver tumors*. Journal of Labelled Compounds and Radiopharmaceuticals, vol. 53 5-6 (2010) 470-471
26. M. Sahagia, A. Cristina Wätjen, A. Luca, C. Ivan, A. Antohe. *National and International Comparisons on Radiopharmaceuticals' activity measurement*. Rom. J. Phys. Vol 55, 7-8 (2010) 733-740
27. V. Olsovcova, A. Iwahara, P. Oropesa, L. Joseph, A. Ravindra, M. Ghafouri, H.-K. Son, M. Sahagia, S. Tastan, B. Zimmerman. *National Comparisons of I-131 measurement among nuclear medicine clinics of eight countries*. Appl. Radiat. Isotopes 68(2010)1371 - 1377

28. C. Ivan, A. C. Wätjen, P. Cassette, M. Sahagia, A. Antohe, E.L. Grigorescu. *Participation in the CCRI(II)-K2.H-3 comparison and study of the new TDCR-LS counter with 6 CPMs*. Appl. Radiat. Isotopes. 68(2010)1543-1545
29. M.Sahagia, D.Stanga, A.C.Wätjen, A.Luca, P.Cassette, C.Ivan, A.Antohe . *The Rn-222 standard system established at IFIN-HH, Romania*. Appl.Radiat.Isot. 68 (2010) 1503 -150
- 30.D. Stanga, D. Radu, O. Sima .*A new model calculation of the peak efficiency for HPGe detectors used in assays of radioactive waste drums*. Appl. Radiat. Isot. 68, 7-8 (2010) 1418-1422
- 31.D. Radu, D. Stanga, O. Sima. *Transfer of detector efficiency calibration from a point source to other geometries using ETNA software*. Rom. Rep. in Physics, 62(2010) 57-64.
32. D. Abriola, M. Bostan, S. Erturk, M. Fadil, M. Galan, S. Juutinen, T. Kibédi, F. Kondev, A. Luca, Al. Negret, N. Nica, B. Pfeiffer, B. Singh, A. Sonzogni, J. Timar, J. Tuli, T. Venkova, K. Zuber. *Nuclear Data Sheets for A=84* Nuclear Data Sheets 110 (2009), 2815-2944.
33. B.E.Zimmerman, T.Altzitzoglu, D.Rodrigues, R.Broda, P.Cassette, L.Mo, G.Ratel, B.Simpson, W. van Wyngaardt, C. Watjen. *Comparison of triple-to-double coincidence ratio (TDCR) efficiency calculations and uncertainty assessment for ⁹⁹Tc*. Appl. Radit. Isot. 68(2010)1477-1481
34. A. Luca, R. Margineanu, M. Sahagia, A.C. Razdolescu. *Activity measurements of technically enhanced naturally occurring radionuclides TENORM in phosphogypsum*. Appl. Radiat. Isot., Vol. 67 (2009) 961-963
35. D. Stanga, P.De Felice. *Improvements in the absolute standardization of large-area reference sources*. Appl. Radiat. Isot. 67, 9(2009)1716-1720
36. D.Radu, D. Stanga, O. Sima. *ETNA software used for efficiency transfer from a point source to other geometries*. Appl. Radiat. Isot. 67, 9 (2009)1686-1690
37. D. Radu, D. Stanga, O. Sima. *A method of efficiency calibration for disk sources in gamma-ray Spectrometry*. Romanian Reports in Physics, ISSN 1221-1451 43 822 Vol 61, 2(2009)203-213.
38. A.Stochioiu, M.Sahagia, S.Bercea, C.Ivan, I.Tudor. *Monitoring of the radioactivity concentration of air in the area of the IFIN-HH, Romania*. Rom. Rep. in Physics, Vol. 61, 3(2009)581-586
39. M.Sahagia, A.C.Wätjen, C.Ivan. *Progress in organizing national and international comparisons for nuclear medicine measurements*. Rom. J. Phys.54,7-8 (2009) 619-627
40. A.Stochioiu, M.Sahagia, I.Tudor. *TLD system for monitoring of the environmental radioactivity*. Rom.J. Phys. 54,7-8 (2009)711-719
- Other Romanian Journals**
- 1.Maria Sahagia, Aurelian Luca, Andrei Antohe, Constantin Ivan. *Role of the Radionuclide Metrology Laboratory from IFIN-HH in the assurance of the international equivalence and national traceability for activity unit standard* .Metrologie, Vol.LVII no.4/2011, ISSN 1220-546, Journal of the Romanian Bureau of Legal Metrology
2. M. Sahagia, A. Luca, A. Antohe, C. Ivan. *Role of the radionuclide metrology in quality assurance of the environmental physics measurements*. Journal of Science and Arts, nr.2, 2011. ISSN 1844-9581; eISSN 2068-3049
3. A. Antohe, B. Neacsu, A. Stochioiu, A. Luca, M. Sahagia. *Methods for the realization of radioactive standards and environmental radioactivity measurement*. Journal of Science and Arts, no.2, 2011, ISSN 1844-9581;eISSN 2068-3049
4. M.Sahagia, A. Luca, A.C.Watjen, A.Antohe, C.Ivan, D.Stanga, C.Varlam, I.Faurescu, L.Toro, M.Noditi, Ph. Cassette. *The primary Romanian radon standard, a common project: IFIN-HH, Bucharest; ICSI, Rm.Valcea; ISP, Timisoara; CEA/LNE-LNHB, Saclay (France)*. Progress of Cryogenics and Isotopes Separation 63,1 (2010)113-129.

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b) Papers presented at International Conferences, Workshops

-International Conference on Nuclear Data for Science and Technology, ND2013, New York, USA, March 4-8, 2013

1. A. Luca. *Nuclear Decay Data Evaluations at IFIN-HH, Romania*

- 19-th International Conference on Radionuclide Metrology and its Applications, ICRM2013, Antwerp, Belgium, accepted papers

1. D. Stanga. *A simple method for determining the activity of large-area beta sources constructed from anodized aluminum foils.*

2. M. Sahagia, R. Ioan, A. Luca, A. Antohe, C. Ivan, B. Neacsu, C.Ghioca. *Standardization of ^{18}F and its use for the Romanian PET metrological traceability chain assurance.*

3. M. Sahagia, A. Antohe, R. Ioan, A. Luca, C. Ivan. *Standardization of Tc-99 by two methods and participation at the CCRI(II)-K2, Tc-99 comparison.*

4. A. Antohe, M. Capogni, F. Cardellini. *Radon in water activity measurements by new ENEA fixed TDCR system.*

- TRACE Workshop on Development of New Radiotracers for PET Imaging and Targeted Radiotherapy.03-05 April 2013, Magurele Romania

1. M.Sahagia, A.Luca, R.Ioan, A.Antohe, C.Ivan, B. Neacsu. *Metrological traceability assurance in production and use of radiopharmaceuticals for PET imaging and targeted radiotherapy*

- 4-rd International Proficiency Testing Conference, PTConf.2013, Brasov, Romania, September 18-20, 2013. Transmitted abstracts :

1. M. Sahagia, A. Luca, R.M. Mărgineanu, E. Garcia Toraño, V. Peyrés, M. Mejuto, T. Crespo. *Comparison of analysis methods for the characterisation of radioactive content of the metallurgical slag used within the EURAMET-EMRP JRP IND04 MetroMetal*

2. A. Luca, B. Neacsu. *Activity concentration measurements of a rice powder reference material.*

- First East European Radon Symposium (FERAS 2012) Cluj-Napoca, Romania, September 2-5, 2012

1. M.Sahagia, A.Luca, A.Antohe, C.Ivan, R.Ioan, B.Neacsu

Realization of the metrological traceability chain of radon-222 . INVITED LECTURE

- 2-nd European Nuclear Physics Conference (EUNPC2012) Bucharest, Romania, September 17-21, 2012. OVERVIEW PAPERS

1. E.L.Grigorescu, M.Sahagia, A.C.Waetjen, C.Ivan, A.Luca, A.Antohe. *Contribution of the radionuclide Metrology Laboratory to the improvement of methods for absolute standardization.*

2. A. Luca, L. Johansson, P. De Felice, S. Pommé, E. Garcia-Toraño, M. Loidl. *The European Metrology Research Programme JRP ENG08 – MetroFission project and its expected impact in nuclear data improvement*

- 1-st World Congress on Ga-68 and Peptide Receptor Radiopharmaceuticals BAD BERKA, GERMANY, 23-26 JUNE, 2011

1. Th. Ebenham, Z. Szucs, C.Cimpeanu, D.Dudu, L.Craciun, A.Luca, M.Sahagia, J.R.Zeevaart. *PRODUCTION OF ^{68}Ge FROM NATURAL ZINC BY CYCLOTRON.*

Abstract published in WORLD JOURNAL OF NUCLEAR MEDICINE, VOL. 10. ISSUE 1, JUNE 2011

- 3-rd International Proficiency Testing Conference, Iasi, Romania, September 28-30, 2011

1. A.Luca, M. Sahagia, A. Antohe, C. Şulea, R. Berenştain. *Recent participations of the Radionuclide Metrology Laboratory from IFIN-HH to proficiency tests and interlaboratory*

comparisons. pp. 120-127, Ed. Universităţii “Lucian Blaga” din Sibiu, ISSN 2066-737X

- Third European IRPA Congress, Helsinki, Finland, 14-18 June 2010

1. S.Bercea, C.Cenusa, A.Celarel, M.Sahagia, A.Stochioiu, I.Tudor, C.Ivan. *An extrapolation ionization chamber for alpha-rays detection and measurement*. P-12-28. Proc. ISBN 978-952-478-549 (print); -550 (pdf). Edita Prima OY, Helsinki, 2010

- Workshop DDEP 2010: Training sessions of the Decay Data Evaluation Project, Madrid, Spain, 9-11 June 2010

1. A. Luca, *Evaluation of Ra-228 nuclear decay data*.

2. A. Luca, *Sn-113, measurement of gamma ray emissions and data evaluation*

3. V. Chiste and A. Luca, *How to handle incomplete decay scheme*

- International Conference on Nuclear Data for Science and Technology (ND 2010), Jeju Island, Korea, April 26-30, 2010

1. M.A. Kellett, M.-M. Bé, V. Chechev, Huang Xiaolong, F.G. Kondev, A. Luca, G. Mukherjee, A.L. Nichols, A. Pearce. *New IAEA Actinide Decay Data Library*.

c) International Reports

1. C Michotte, G Ratel, S Courte, R Fitzgerald and M Sahagia. *Activity measurements of the radionuclide ⁵⁷Co for the NIST, USA and the IFIN-HH, Romania in the ongoing comparison BIPM.RI(II)-K1.Co-57*. Metrologia 49(2012) (Technical supplement 06005)

2. M.-M. Bé, V. Chiste, C. Dulieu, X. Mougeot, V. Chechev, N. Kuzmenko, F. Kondev, A. Luca, M. Galan, A.L. Nichols, A. Arinc, A. Pearce, X. Huang, B. Wang. **Table of Radionuclides (vol. 6 - A=22 to 242) Monographie BIPM-5**, Ed. Bureau International des Poids et Mesures, Pavillon de Breteuil, F-92310 Sèvres, France, 2011, pp. 73-78, ISBN-13 978-92-822-2242-3

3. M.-M. Bé, V. Chisté, C. Dulieu, X. Mougeot, E. Browne, V. Chechev, N. Kuzmenko, F. Kondev, A. Luca, M. Galán, A. Arinc, X. Huang. **“Monographie BIPM-5: Table of Radionuclides (Vol. 5 – A=22 to 244)”**, Ed. Bureau International des Poids et Mesures, Pavillon de Breteuil, F-92310 Sèvres, France, 2010, ISBN-13 978-92-822-2234-8.

4. M.-M. Bé et al., **“Monographie BIPM-5: Table of Radionuclides (Comments on evaluation)”**, Vol. 1-5, Ed. BIPM, Sevrès, France, 2010

5. C.Michotte, S.Courte, G.Ratel, M.Sahagia, A.C.Watjen, F.Fitzgerald, F-J. Maringer *Update of the ongoing comparison BIPM.RI(II)-K1.Co-60 including activity measurements of the radionuclide Co-60 for the IFIN-HH (Romania), NIST (USA) and the BEV (Austria)* Metrologia Technical Supplement 47(2010) 06010.

6. M-M Bé, B. Chauvenet, M.-N. Amiot, C. Bobin, M.-C. Lépy, T. Branger, I. Lanièce; A. Luca, M. Sahagia, A.C. Wätjen; K. Kossert, O. Ott, O. Nähle; P. Dryak, J. Sochorová, P. Kovar, P. Auerbach; T. Altitzoglou, S. Pommé, G. Sibbens, R. Van Ammel, J. Paepen; A. Iwahara, J.U. Delgado, R.Poledna; L. Johansson, A. Stroak; C. Bailat, Y. Nedjadi, P. String. *¹²⁴Sb . Activity measurement and determination of photon emission intensities*, Rapport CEA-R-6222, CEA-Saclay, France, 2009, ISSN 0429-3460.

d. Chapters in books

1. Maria Sahagia. *Chapter 6 “Role of the Radionuclide Metrology in Nuclear Medicine” pp 137 – 164, of the Book: “12 Chapters on Nuclear Medicine”* December 2011, Publisher InTech, Croatia, ISBN 978-953-307-802-1.

2. A.Antohe, M.Sahagia, A.Luca, Ph. Cassette, C.Ivan. *Influence of detection efficiency on the measurement of radon by liquid scintillation counting*. RADIOCARBON, Special Volume (2011), pp.189 – 197. Proc of the 2010 International Liquid Scintillation

Conference, Paris, France, September 6-10 LSC2010 Advances in Liquid Scintillation Spectrometry . The Univ. of Arizona, Tucson, Arizona, USA. ISBN 978-0-9638314-7-7

e. PhD Theses

1. Andrei Antohe. *Contributions at the elaboration of the absolute and relative methods for the standardization of radon and realization of radon standards.*

Bucharest University, September 2012, supervisor, Dr. Maria Sahagia

2. Beatris-Luminita Savu (Neacsu). *Contributions at the implementation of the gamma-ray spectrometry for applications in nuclear medicine and in radionuclide metrology.*

Bucharest University, September 2012, supervisor, Dr. Maria Sahagia