

# Industrial Technologies

## ◆ Nuclear Instruments and Methods

### Journals

#### Published

BOGAERTS A., DONKÓ Z., KUTASI K., BÁNÓ G., PINHÃO N., PINHEIRO M., Comparison of Calculated and Measured Optical Emission Intensities in a Direct Current Argon-Copper Glow Discharge, *Spectrochimica Acta, part B* **55** (2000) 1465-1479.

GOMES, M.J., GIRARD, T.A., OLIVEIRA, C., JEUDY, V., LIMAGE, D., A Superconductive Measurement of the  $^{187}\text{Re}$  Beta Decay Spectrum, *Nucl. Instr. and Meth. A* **444** (1) (2000) 84-87.

GOMES, M.R., GIRARD, T.A., OLIVEIRA, C., JEUDY, V. AND LIMAGNE, D., A Superconductive Measurement of the  $^{187}\text{Re}$  Beta Decay Spectrum: Preliminary Results, *Nucl. Phys. B Proc. Suppl.* **87** (2000) 493-394.

GONÇALVES, I.O.F., MARTINHO, E., SALGADO, J., Monte Carlo Calculation of Gamma Spectra Inside a Lead Hollow Cylinder, *Kerntechnik* **65** (5-6) (2000) 236-239.

OLIVEIRA, C., GONÇALVES, I.F., CHAVES, A., LOPES, M.C., TEIXEIRA, N., MATOS, B., GONÇALVES, I.C., RAMALHO, A., SALGADO, J., Monte Carlo Method Applied to Medical Physics, *Radioprotecção* **1** (6-7) (2000) 37-42.

OLIVEIRA, C., SALGADO, J., CARVALHO, A.F., Dose Rate Determinations in the Portuguese Gamma Irradiation Facility: Monte Carlo Simulations and Measurements, *Appl. Radiat. Isot.* **58** (3) (2000) 279-285.

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CHAVES, A., LOPES, M.C., OLIVEIRA, C., Monte Carlo Simulation Applied to Radiosurgery Narrow Beams using MCNP-4C Code, *Radioprotecção* **1** (8-9), in press.

GONÇALVES, I.F., MARTINHO, E., SALGADO, J., Monte Carlo Calculation of Resonance Self-shielding Factors for Epithermal Neutron Spectra, *Radiation Physics and Chemistry*, in press.

OLIVEIRA, C., SALGADO, J., Isodose Distributions and Dose Uniformity in the Portuguese Gamma Irradiation Facility Calculated using the MCNP Code, *Appl. Radiat. Isot.*, in press.

PINHÃO, N., *PLASMAKIN*: A Chemical Kinetics Package for Plasma Physics Modelling, *Computer Physics Communications*, in press.

### Books and Book Chapters

CHARBUNCINSKI, J., WATT, J. S., CASTAGNET, A. C., LIYE, Z., TOLA, F., BOUTAINE, J. L., TOMINAGA, H., SCHEERS, M., WALLACE, G., URBANSKI, P., SALGADO, J., FEDORKOV, F. G., GARDNER, R.P., MINGAY, D.W., WHEATLEY, J. AND THERESKA, J., Emerging new applications of nucleonic control systems in industry, IAEA-TECDOC-1142 (2000).

OLIVEIRA, C., SALGADO, J., CARVALHO, F.G., Prompt Gamma Neutron Activation Analysis (PGNAA), *Encyclopaedia of Analytical Chemistry*. Ed. R.A. Meyers, John Wiley & Sons Ltd, Chichester. (2000), pp. 12740-12762.

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### Conference Proceedings

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BOGAERTS A., DONKÓ Z., KUTASI K., BÁNÓ G., PINHÃO N., PINHEIRO M., Comparison of Calculated and Measured Optical Emission Intensities in a Direct Current Argon-copper Glow Discharge, *XV<sup>th</sup> ESCAMPIG*: Abstract of Invited Lectures and Contributed Papers (2000) 200-201.

FRAGOSO, M., CHAVES, A., ALVES, C., LOPES, M. C., OLIVEIRA, C., PERALTA, L., SECO, J., MC Simulation of a Linear Accelerator Treatment Head - EGS4 and MCNP-4B Intercomparison, *Proc. 8<sup>th</sup> Int. Conf. on Calorimetry in High Energy Physics*, eds. G. Barreira B. Tomé, A. Gomes, A. Maio, and M.J. Varanda, World Scientific, 2000, pp. 697-702.

GOMES, M.R., GIRARD T.A., OLIVEIRA, C. AND JEUDY V., Particle Detection with Geometrically-Metastable Type-I Superconductors, *Applied Superconductivity* 1999, eds. X. Obradors, F. Sandiumenge and J. Fonteuverta, IOP Publishing, Bristol, (2000) pp. 691.

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GOMES, M.J., GIRARD, T.A., OLIVEIRA, C., JEUDY, V., Measurements of the <sup>187</sup>Re Beta Decay Spectrum with a Geometrically-Metastable Superconducting Detector, *Proc. 8<sup>th</sup> Int. Conf. on Calorimetry in High Energy Physics*, eds. G. Barreira, B. Tomé, A. Gomes, A. Maio and M.J. Varanda, World Scientific, Singapore, 2000, pp. 753.

### Accepted for publication or in press

CHAVES TRINDADE, A., RODRIGUES, P., ALVES, C., CHAVES, A., LOPES, M.C., OLIVEIRA, PERALTA, L., Monte Carlo Simulations of Electron Beams for Radiotherapy – EGS4, MCNP4b and Geant3 Intercomparison, *Proceedings of the International Conference on Advanced Monte Carlo for Radiation Physics, Particle Transport Simulation and Applications - MC2000*, Lisbon, 23-26 Oct. 2000, eds. A. Kling, F. Barão, M. Nakagawa, L. Távora, P. Vaz, Springer Verlag, Berlin, Heidelberg, in press.

GIRARD, T.A., VALKO, P., GOMES, M.R., OLIVEIRA, C., Direct Neutrino Mass Measurement with a Superconductive Detector, *Proc. Carolina Symposium on Neutrino Physics*, 12-14 March 2000, Columbia, SC USA, in press.

GONÇALVES, I.F., RAMALHO, A.G., GONÇALVES, I.C., SALGADO, J., MCNP Calculations for the Shielding Design of a Beam Tube to be Installed at the Portuguese Research Reactor, *Proceedings of the International Conference on Advanced Monte Carlo for Radiation Physics, Particle Transport Simulation and Applications - MC2000*, Lisbon, 23-26 Oct. 2000,

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VALKO, P., GOMES, M. R., GIRARD, T. A., OLIVEIRA, C., Measurements of the <sup>187</sup>Re Beta Spectrum, *Proc. International Workshop on Non-Accelerator New Physics in Neutrino Observations* Dubna Russia, 19-22 July 2000, in press.

### Communications

ALVES, C., CHAVES, A, FRAGOSO, LOPES, M., C, LOURENÇO, L., OLIVEIRA C., PERALTA, L., RODRIGUES, P., SECO, J., AND TRINDADE, A., Simulação Monte Carlo em Radioterapia Externa 12<sup>a</sup> Conf. Nac. de Física, Figueira da Foz, 2000.

ALVES, C., LOPES, M.C, CHAVES, A., PERALTA, L, RODRIGUES, P., TRINDADE, A.C., OLIVEIRA, C., Buildup Measurements and Calculations for Photon Beams – Search of the Effective Point of Measurement for Pinpoint and Markus Chambers, *Medical Radiation Physics and Engineering – MerPE 2000*, Lisboa, Nov. 2000.

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GONÇALVES, I.F., MARTINHO, E., SALGADO, J., Monte Carlo Calculation of Resonance Self-Shielding Factors for Epithermal Neutron Spectra Varying as

$E^{(1-\alpha)}$ , 8<sup>th</sup> Int. Symp. on Radiat. Phys., Praga, 5-9 Jun 2000.

GONÇALVES, I.F., RAMALHO, A.G., GONÇALVES, I.C., SALGADO, J., MCNP Calculations for the Shielding Design of a Beam Tube to be Installed at the Portuguese Research Reactor, *International Conference on Advanced Monte Carlo for Radiation Physics, Particle Transport Simulation and Applications - MC2000*, Lisbon, 23-26 Oct. 2000 (oral).

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## Theses

### Lic.

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◆ Radiation Technologies: Processes and Products

**Communications**

ANDRADE, M.E., BOTELHO, M.L., Quality Improvement of Cork Stoppers by Radiation, *Congreso Mundial del Alcornoque y Corcho*, CCB, Lisbon Portugal, 19 July 2000. (oral)

**Internal Reports**

BOTELHO, M.L., CABO VERDE, S., RIBEIRO, R., MARCOS, H.M., MARQUES, A.P., Biocontamination Evaluation of the Environmental of the Operation Theatre, *Report presented to D. Estefânia Hospital*, Lisbon, Portugal, July 2000.

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