

# Status and perspectives at the new tandem accelerators in IFIN-HH

I. Burducea,<sup>1</sup> M. Straticiuc,<sup>1</sup> D.G. Ghita,<sup>1</sup> C.I. Calinescu,<sup>1</sup> D.V. Mosu,<sup>1</sup>  
M.S. Dogaru,<sup>1</sup> M.M. Gugiu,<sup>1</sup> I.V. Popescu,<sup>2</sup> Gh. Cata-Danil,<sup>1,3</sup>  
N. Marginean,<sup>1</sup> M. Enachescu,<sup>1</sup> A. Petre,<sup>1</sup> C.A. Simion,<sup>1</sup> C. Stan-Sion,<sup>1</sup>  
M. Statescu,<sup>1</sup> A. Pantelica,<sup>1</sup> D. Pantelica,<sup>1</sup> P. Ionescu,<sup>1</sup> and N.V. Zamfir<sup>1</sup>

<sup>1</sup>*Horia Hulubei National Institute for R&D in Physics and  
Nuclear Engineering, 077125 Magurele-Ilfov, Romania*

<sup>2</sup>*Valahia University of Targoviste, 130024 Targoviste-Dambovita, Romania*

<sup>3</sup>*University Politehnica Bucharest, 060042, Bucharest, Romania*

Two new Cockroft-Walton tandem accelerators were installed in 2012 at IFIN-HH dedicated to both basic and applied research in atomic and nuclear physics [1, 2]. The 1 MV HVE Tandetron accelerator is used for AMS measurements, while the 3 MV HVE Tandetron accelerator is used for ion beam analysis measurements [3] and ion implantation experiments. Among many possible techniques for materials analysis, ion beam techniques have become popular and satisfy most analysis needs. The available methods include: Rutherford Backscattering Spectrometry (RBS), Proton Induced X-ray Emission (PIXE) and Proton Induced Gamma-ray Emission (PIGE) [3]. These techniques are particularly attractive and powerful because of their inherent capability of providing information regarding the stoichiometry and thicknesses of thin films using RBS and elemental analysis of the samples using the other methods.

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[1] <http://tandem.nipne.ro/tnd3m/index.html>

[2] <http://tandem.nipne.ro/tnd1m/index.html>

[3] Handbook of modern ion beam materials analysis, Joseph R. Tesmer, Michael Nastasi, Materials Research Society, 1995