

**Prof. Stylianos (Stelios) Stoulos**

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Professor Stoulos joined the physics department faculty at the Aristotle University of Thessaloniki (AUTH) in 1996. He now holds an associated Professorship at the AUTH and is a Fellow of the European Physical Society (EPS), Association of Natural Radiation in Environment (NREA), International Nuclear Track Society (INTS) and Association of Industrial Radiation and Radioisotope Measurement Applications (IRRMA). Since coming to AUTH in 1996 he has co-established one of the nation's top research laboratory in Nuclear Physics Applications based on  $\alpha$ - and  $\gamma$ -spectroscopy systems. He has since now collaborated in the frame of "QUINTA", "GAMMA-2" and "Energy+Transmutation" projects at High Energy Laboratory - Dubna, Russia as well as in the frame of "ICCHIBAN" project (InterComparison for Cosmic-ray with Heavy Ion Beams At NIRS) and "CHERNE" project (Cooperation for Higher Education on Radiological and Nuclear Engineering network). During 2017 he became MC Member of the COST Action ChETEC (CA16117) \Chemical Elements as Tracers of the Evolution of the Cosmos" (Horizon 2020).

His has up to day 77 publications in international scientific journals with about 1000 citations. His research interests relate to radiation detection methods, environmental radioactivity, medical physics-dosimetry, and spallation neutron sources – accelerator driven systems as well as nuclear reactions cross section of inelastic, fission and astrophysical  $\gamma$ -processes. A list of recent publications is the following:

1. M. I. Krivopustov, ..., S. Stoulos, Collaboration "Energy plus Transmutation". First results studying the transmutation of  $^{129}\text{I}$ ,  $^{237}\text{Np}$ ,  $^{238}\text{Pu}$  and  $^{239}\text{Pu}$  in the irradiation of an extended  $^{nat}\text{U/Pb}$ -assembly with 2.52 GeV deuterons, **Jour. Radioanalytical and Nuclear Chemistry: 279**, 567-584 (2009)
2. S. Stoulos, M. Frangopoulou, A. Sosnin, M. Manolopoulou, M. Krivopustov and M. Zamani. Hadron multiplicity studies on a combined Pb/U-blanket spallation source: Experimental and simulation benchmark analysis, **Nuclear Instrument and Methods A 599**: 106-112 (2009)
3. Manolopoulou, M., Frangopoulou, M., Stoulos, S., Westmeier, W., Lagogiannis, A. & Zamani, M., Non-linearity of recoil pulse height events in He-3 tubes, **Nuclear Instrument and Methods A 618**: 284-293 (2010)
4. Zamani, M., Stoulos, S., Frangopoulou, M., Manolopoulou, M. & Krivopustov, M. Indirect measurement of inelastic cross section of relativistic protons in Pb target, **Annals of Nuclear Energy 37**: 923-926 (2010)
5. Zamani-Valasiadou, M., Frangopoulou, M., Manolopoulou, M., Stoulos, S., Jokic, S., Sosnin, A.N. & Krivopustov, M.I. Performance of a Pb-spallation target surrounded by

*a U-blanket during irradiations with 1.6 and 2.5 GeV deuteron beams: Comparison with relativistic proton beams, **Annals of Nuclear Energy** 37: 241-247 (2010)*

6. Zamani, M., Stoulos, S., Fragopoulou, M. & Krivopustov, M. *Measurement of inelastic cross section in relativistic deuteron-on-lead reactions, **Phys. Rev. C** 82: 044605 (2010)*

7. Stoulos, S., Westmeier, W., Hashemi-Nezhad, R., Fragopoulou, M., Lagoyannis, A. & Zamani, M. *Nuclear fission cross sections induced by deuterons of 4 GeV, **Phys. Rev. C** 85: 024612 (2012)*

8. Zamani, M., Stoulos, S., Fragopoulou, M. & Krivopustov, M., High-energy fission cross sections induced by deuterons on  $^{232}\text{Th}$  and protons on natPb targets, **Phys. Rev. C** 87: 067602 (2013)

9. E.Vagena, S.Stoulos and M. Manolopoulou. Analysis of improved neutron activation technique using thick foils for application on medical LINAC environment, **Nuclear Instrument and Methods A** 806, pp. 271-278 (2016)

10. E.Vagena, S.Stoulos and M. Manolopoulou. *GEANT4 Simulations on Medical LINAC operation at 18 MV: experimental validation based on activation foils. **Radiation Physics and Chemistry** 120, pp. 89-97 (2016)*

11. P. Koseoglou, E.Vagena, S. Stoulos and M. Manolopoulou, *Neutron spectrum determination in a sub-critical assembly using the multi-disc neutron activation technique, **Radiation Effects and Defects in Solids** 171 (9-10), pp. 766-774 (2016)*

12. E.Vagena and S.Stoulos. *Average cross section measurement for  $^{162}\text{Er}(\gamma, n)$  reaction compared with theoretical calculations using TALYS. **Nuclear Physics A** 957, pp. 259-273 (2017)*

13. E.Vagena and S.Stoulos. *Photodisintegration average cross-sections of dysprosium p-nuclei near  $(\gamma, n)$  reaction threshold, **European Physical Journal A** 53 (5), 85 (2017)*

14. E.Vagena, K. Theodorou and S.Stoulos. *Thick-foils activation technique used for neutron spectrum unfolded applying MINUIT routine - Comparison with GEANT4 simulations. **Nuclear Inst. and Methods in Physics Research A**, accepted for publication*

15. E.Vagena, P. Katsaras, K. Theodorou and S.Stoulos. *Photo-neutrons peripheral ambient dose equivalent received by patients at 15MeV linac environment mapping neutrons spectrum, **European Journal of Medical Physics**, under review*

16. E.Vagena and S.Stoulos. *Ytterbium photodisintegration average cross sections data near to  $(\gamma, n)$  reaction threshold, **Physical Review C**, under review*