Goran Arbanas

Education and Training:

Massachusetts Institute of Technology, Cambridge, MA	B.S.	1990	Physics
Massachusetts Institute of Technology, Cambridge, MA	Ph.D.	1995	Physics
Thesis Title: "General theory of nuclear scattering : the Feshbach-Kerman-Koonin approach"			
Thesis Supervisor: Prof. Arthur K. Kerman			
Oak Ridge National Laboratory	Postdoc.	2003-4	Physics

Research and Professional Experience:
R&D Staff 2004-Present Nuclear Data and Criticality Safety, Oak Ridge National Laboratory

Activities include theory and computation of nuclear reactions and their uncertainties for nuclear data evaluations. These include thermal neutron scattering kernels, resolved and unresolved resonances ranges, higher energy regions, as well as direct-semidirect neutron capture on stable and unstable nuclides. Manager of the SAMMY resolved and unresolved resonance analysis code. Developed a model for using integral benchmark experiments to adjust evaluated nuclear resonance parameters that has been implemented in the SAMINT module of the SAMMY code. Developed a model for inverse sensitivity/uncertainty studies to help identify nuclear data improvements most relevant for reducing uncertainties of responses of various applications that has been implemented in the INSURE module of the AMPX code. Computes neutron capture cross sections as input to nucleosynthesis models in nuclear astrophysics. Actively pursuing improvements in theory and models of nuclear reactions relevant to nuclear data evaluations, within the TORUS and the UNEDF national Office of Science collaborations listed below

National Office of Science Collaborations:

TORUS (www.reactiontheory.org): Topical Collaboration on Theory of Reactions on Unstable Isotopes; 2010-2015. Responsibilities include neutron capture, semidirect-reactions, doorway reaction mechanisms (e.g. electric dipole mode, isobar analogue resonance reactions), and deuteron stripping reactions.

UNEDF SciDAC (www.unedf.org) Universal Nuclear Energy Density Functional, 2006-2011: Responsibilities include: 1) fitting local optical potentials (using Ray Mackintosh's code IMAGO) to elastic phase shifts computed by Ian Thompson, 2) large scale statistical study of approximations in the Kawai-Kerman-McVoy theory of nuclear reactions.

Publications:

Methods and Approaches Development at ORNL for Providing Feedback from Integral Benchmark Experiments for Improvement of Nuclear Data Files, NEA Nuclear Data Week, 30 November – 4 December, 2015, Paris, France, Vladimir Sobes, Luiz Leal, G. Arbanas, B. Khuwaileh, M.L. Williams, M. Dunn, H Abedl-Khalik

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