EuroSciCon

World Congress on

Materials Science & Engineering

August 23-25, 2018
Amsterdam, Netherlands

Stoyan Sarg Sargoytchev, Nano Res Appl 2018, Volume: 4
DOI: 10.21767/2471-9838-C4-016

ANALYSIS OF LENR AND RECOMMENDATIONS FOR COLD FUSION ENERGY USING THE BSM-SG ATOMIC MODELS

Stoyan Sarg Sargoytchev
World Institute for Scientific Exploration, USA

The fast growing branches of nanotechnology permitted advancements in different fields. Among them is the recent success in Low Energy Nuclear Reactions/Lattice Enabled Nanoscale reactions (LENR). This requires a new theoretical understanding for processes in atomic sub-nanometric scale. The atomic models derived in the Basic Structures of Matter Supergravitation Unified Theory (BSM-SG), denoted as the BSM-SG models, fit quite well to this need. The BSM-SG theory reveals the existence of a space microcurvature surrounding the elementary particles and the super dense atomic nuclei. This explains why quantum mechanical models work only with energy levels and not with the dimension of length. The re-examination of scattering experiments from the BSM-SG point of view reveals a complex three-dimensional nuclear structure different from the quantum mechanical models of atoms based on the Bohr atomic model. Protons and neutrons are not point-like; the atomic nuclei have a much larger overall size, so the Coulomb barrier is not so strong. Therefore, some nuclear transmutations are possible at accessible temperatures. The pattern of the Periodic Table carries a strong signature of the spatial arrangement of protons and neutrons in the atomic nuclei. Nuclear stability depends on the symmetrical arrangement of protons and neutrons. Nuclear spin and nuclear magnetic resonance are also identifiable features of the nuclear configuration. The BSM-SG atomic models provide a new opportunity for analysis and prediction of many nuclear transmutations in the field of LENR. This issue is presented in the author's book 'Structural Physics of Nuclear Fusion'. The book describes a new method for theoretical estimation of the binding nuclear energy based on the derived nuclear dimensions of hadrons and derived strong force parameters. This provides new considerations for the proper selection of isotopes suitable for realization of cold fusion energy with minimal or no radioactive waste.

Biography

Stoyan Sarg Sargoytchev completed his PhD in Physics from the Bulgarian Academy of Sciences in 1984. Until 1990, he worked on space research projects coordinated by the program Intercosmos, and on a project of the ESA European agency. From 1990 he was a Visiting Scientist at Cornel University for two years. From 1992 he worked with Canadian government institutions and universities and retired from York University in 2013. Currently he is a Distinguished Scientific Advisor at the World Institute for Scientific Exploration, (WISE), USA. Selected articles: http://vixra.org/author/stoyan_sarg.

sto.sarg@gmail.com