SYSTEMIC LOGIC IN THEORETICAL ASTROPHYSICS

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Abstract

New method, *systemic intuition* [1], has enabled us to discover the following:
(1) there are two fundamental particles – virtual electron (electrino) and virtual positron (positrino) - with no physical properties; their interaction gives birth to virtual positronium characterized by energy; positroniums exchange photons and acquire states, called composiums, with complex energy;
(2) ether, the primary physical medium described by correlation function, consists of composiums;
(3) ether generates mesons and neutrons; cosmic rays and microwave background are the proper radiations of ether; experimental data on cosmic rays enabled us to evaluate characteristics of ether and dimensions of some particles; mean radius of real electron proved to be about 0.01 fm;
(4) in respect to ether excitation, neutron is linear system with continuously distributed parameters consistent spatially with ether; because of its time-space contradiction it transforms into H-atom;
(5) H-atom is linear system with lumped parameters consistent in time with ether; H-atom consists of three quarks implementing collective interaction of virtual particles inside the atom and its photon exchange with ether; quarks are described by real symmetric matrices; agents of those processes correspond to gluons;
(6) essence of nuclear interaction is conservation of energy by alternate transformation of electric energy to magnetic one and vice versa, atom of deuterium (D-atom) being its fundamental case;
(7) H-atom and neutron can roughly be modeled by electric RC- and LR-circuits respectively; for exact representation it is necessary to take into account minor magnetic properties of H-atom and electric properties of neutron; D-atom is modeled by electric LCR-circuit, He-atom by T-shape low-pass filter; all above electric parameters are evaluated;
(8) the pulse response of H-atom model follows closely correlation function of ether in high-energy region; the cut-off energy region of ether spectrum, 10^8.5 eV, is formed by atoms of helium and other elements;
(9) nuclear structure evolves by shells, D-atom being its basic element; there are seven shells: He-shell (2-shell), octahedral shell (8-shell), icosahedral shell (18-shell), double-icosahedral shell (36-shell) and three inverse shells of 18, 8 and 2 D-atoms; additional neutrons perform inter-shell interaction; electron shells are integral components of nuclear structure;
(10) every nuclear shell can be modeled by electric LCR-network, so that the whole atom can be represented by matrix of impedances; atom with atomic number *m* consists of *m* D-atoms, is represented by network with *m* degrees of freedom and, when excited, emits *m*-neutrinos;
(11) stellar medium simulates conditions of ether, so that the atoms produced in it become different models of ether, achieving their perfection in the U-atom; its structure being actually the realization and exposition of the implicit structure of H-atom.

1. Igor S. Makarov. A Theory of Ether, Particles and Atoms. Second Edition. Open University Press. Manchester, UK, 2010. Order: ISBN-13: 9781441478412. Online: http://kvisit.com/S2uuZAQ

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