

The Program for Construction to the Real 《Atomic and Nuclear Physics》

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Abstract: put a program for construction to the real *Atomic and Nuclear Physics*

Main Viewpoint:

Establish to *an Atomic and Nuclear Physics* which compliance with the standard of “Accurate, Clear, Concise and Direct” that “explore particles physics, deep-seated structure of matter, looking for the most basic elements of the material world and the most fundamental physical interactions”.

Based on the “atomic nuclear-model structure; nuclear frog-eggs structure; and spherical layer grading structure of extra-nuclear charge distribution”:

1. fusion *the classical quantum theory, quantum mechanics, quantum field theory and volume charge density theory (VDFT)*; establish a representation theory in Field theory about the volume charge density, frequency and energy levels distribution of the extra-nuclear charge.

2. generation principle and mechanism of action of nuclear forces; stability mechanism and the mechanism nucleus; nuclear energy and energy levels representation; nature of the ground state and excited state properties of nuclei is described, including the ground-state properties of nuclei binding energy, radius, single-particle level, resonant states, magnetic moment, halo phenomena; excited state properties, including rotating magnetic nuclei, low-lying excited state properties, the collective rotation, quantum phase transition, the collective vibration. There is clear experimental evidence those nuclear π -mesons in the collective memory mode, π -mesons (belt, body) of the collective energy levels of characterization and formulation.

Appendix [1]:

The Basic Structure and Properties of Hadrons:

(1) The basic structure of Hadrons

First, an atomic nucleus by and only consists of two kind nucleons which protons and neutrons. In the case of not accepting any new particles, according to the *Meson theory* [2], get the following conclusions: the protons and neutrinos are the most elementary particles; a π -meson by an electron and a neutrino compounded; a neutron compounded by a proton and a π -meson, the π -meson as a shell and afterbirth, covered and wrapped with the proton.

(2) The basic properties of Hadrons

Since an electron with a negative charge of a unit; and a neutrino is has not any charge, so the π -meson which by they are compounded have a unit negative electrical. And a proton with a unit of positively charges, thus, both a neutron the magnetic moment and the electric dipole moment, but without significant electrical properties.

References

[1] <The basic structure and properties of Hadrons> <http://vixra.org/abs/1407.0015>

[2] <Meson > --- <http://en.wikipedia.org/wiki/Meson>