Vetrov Anatoly Nikolaevich, author of the unique cognitive modeling technology
www.vetrovan.(spb.)ru
The RF, Saint-Petersburg city

THE FUNDAMENTAL DEVELOPMENTS BRANCH
"COGNITIVE MODELING IN THE PHYSICAL SCIENCES" ("OFN")
OF "THE SRI "SFA CMT" OF "THE RA(N)S" NAMED AFTER V.N. VENIAMINOV"

The developed "The fundamental developments branch "Cognitive modeling in the physical sciences"" ("OFN") treats to the fundamental developments divisions of "The scientific-research institute "System and financial analysis based on cognitive modeling technology" of "The RA(N)S" named after V.N. Veniaminov" ("The SRI "SFA CMT" of "The RA(N)S" named after V.N. Veniaminov" – The SRI) as the first SRI in structure of "The SIO "Academy of cognitive natural sciences"" ("The SIO "ACNS""), an additional component of science and education system of the modern country for creation, distribution and use of the main and derivative scientific results of the cognitive modeling technology (CMT) (www.vetrovan.(spb.)ru) [see the fundamental developments branches and departments of The SRI]: 1) it is executed by the principle of "administrative-economy submission"; 2) works in several main directions, which allow to provide development of the fundamental main and derivative scientific results (my second report on SRW from 2006-2008(9) y. was submitted to "The SPbSETU "LETI"" and The Government of The RF for the translation, carrying out of int. action and receiving of "The Nobel Prize"); 3) includes several various main divisions: I. "The fundamental developments department "The theory of the physics, astronomy and space researches"" ("SOFA") (*) [***the fundamental developments in area "Theoretical physics" (*)*** – theory of questions and general problems of physical experiment, theory of physics of elementary particles, theory of fields, theory of high energy physics, theory of nuclear physics, theory of physics of gases and liquids, theory of thermo-dynamics and statistical physics, theory of physics of firm bodies, theory of physics of plasma, theory of physics of atom and molecule, theory of optics, theory of laser physics, theory of radio-physics, theory of physical bases of electronics, theory of acoustics, theory of cognitive modeling technology in theoretical physics, theory of cognitive models of interaction between elementary particles and firm bodies, fields, liquids and gases, theory of cognitive model of modified volumetric planetary model of atom named after N.H.D. Bor, theory of cognitive models of temperature areas of plasma of atom and molecule, theory of cognitive model of eye optical environment as optical device, theory of cognitive model of ear acoustical environment as acoustical device, theory of cognitive model of waves distribution in environment;

the fundamental developments in area "Theoretical astronomy" (*) – theory of astronomy and heavenly mechanics, theory of astrometry and astro-physics of The Solar system, The Sun, stars, fogs, interstellar environment and star systems, theory of cosmology, theory of observatories, tools, devices and methods of astronomical supervision, theory of cognitive modeling technology in theoretical astronomy, theory of cognitive models of relative positioning of 1, 2, 3, 4, 5 and more galaxies, planets, stars and satellites, The Earth, The Sun and others;
the fundamental developments in area "Theoretical space researches of The Earth, The Sun and planets" (*) – theory of general questions of space researches of The Earth, The Sun and planets, theory of devices and methods of fundamental scientific researches of space environment, theory of planning and realization of starts of space vehicles and artificial heavenly bodies, theory of uncontrol movement of space vehicles and artificial heavenly bodies, theory of control of movement of space vehicles and artificial heavenly bodies, theory of space technics and technology (rocket engines of new generation), theory of safety and medical-biological problems of space flights, theory of use of space systems for connection and navigation, theory and problems of extraterrestrial territories discovery and prospects of astronautics, theory of astronomical objects research by space means, theory of geo-physical fundamental researches by space means, theory of research of The Earth from space (means of research of new generation), theory of cognitive modeling technology in theoretical space researches of The Earth, The Sun and planets, theory of cognitive models of gravitational and other interactions between 1, 2, 3, 4, 5 and more artificial space objects, satellites, galaxies, planets, stars, The Earth and The Sun, theory of cognitive models of work of basic rocket engine, the first, the second, the third and the fourth rocket engine of launch vehicle and others].

II. "The fundamental developments department "The theory of the nuclear physics and physics of atomic nucleus"" ("SYF") (*)

[***the fundamental developments in area "Theoretical nuclear physics" (*)*** – theory of nuclear raw materials and fuel, theory of isotopes synthesis, theory of isotopes and ionization radiations, theory of nuclear reactors, theory of thermal-nuclear reactors, theory of radiations action and protection against them, theory of nuclear explosions, theory of nuclear fuel processing and waste disposal, theory of cognitive modeling technology in theoretical nuclear physics, theory of cognitive models of difficult chemical elements structure with 1, 2, 3, 4, 5 and more nucleus (nuclear polymers), theory of cognitive model of modified volumetric principle named after W.E. Pauli for studying electronic clouds within limits of power levels, theory of cognitive model of modified planetary model of atom named after N.H.D. Bor and others].

The fundamental developments branches and departments of The SRI allow to develop the main and derivative scientific results of CMT.