

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

THE FUNDAMENTAL DEVELOPMENTS BRANCH

“COGNITIVE MODELING IN THE SCIENCES ABOUT THE EARTH” (“ONZ”)
OF “SRI "SFA CMT" OF "RA(N)S" N. A. VENIAMINOV V.N.”

The developed “The fundamental developments branch
"Cognitive modeling in the sciences about The Earth” (“ONZ”)
treats to the fundamental developments divisions
of “The scientific-research institute "System and financial analysis based on
cognitive modeling technology" of "RA(N)S" named after Veniaminov V.N.”
 (“SRI "SFA CMT" of "RA(N)S" n. a. Veniaminov V.N.” – SRI) as the first SRI
in the structure of “SIO "Academy of cognitive natural sciences”” (“SIO "ACNS””)
and the add. component of the system of science and education of the modern country
for the 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 SRI]:
1) it is executed by the principle of “administrative-economy submission”;
2) works in the several main directions, which allow to provide
the development of the fundamental main and derivative scientific results
(my second report on SRW from 2006-2008(9) y. was submitted
to “SPbSETU "LETI”” and “The Government of RF”
for the translation, carrying out of int. action and receiving of “The Nobel prize”);
3) includes the several various main divisions:
I. “The fundamental developments department
"Theory of geo-physics, geology, mining and metallurgy”” (“SGGGGN”)
*[the fundamental developments in the area
“ T h e o r e t i c a l g e o - p h y s i c s ”* –
theory of geo-magnetism and the high layers of atmosphere,
theory of meteorology, theory of climatology, theory of oceanology,
theory of hydrology of land, theory of glaciology, theory of physics of The Earth,
t h e o r y o f t h e c o g n i t i v e m o d e l i n g t e c h n o l o g y
i n t h e t h e o r e t i c a l g e o - p h y s i c s ;

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“The Nobel committee” (The Kingdom of Norway and The Kingdom of Sweden)
(it was submitted to “SIO "ACNS””) on the int. conf. “APMS and T: CA” on the 01st-31st of March 2016 y.)

the fundamental developments in the area
“ Theoretical geology ” –
theory of lithology, theory of tectonics,
theory of the geological-geo-physical researches of the deep structure of The Earth,
theory of regional geology, theory of planetology, theory of stratigraphy,
theory of paleontology, theory of geo-chemistry, theory of mineralogy, theory of petrography,
theory of experimental and technical mineralogy and petrography,
theory and methods of the mineralogical-petrographical
and geo-chemical laboratory researches (bench or field),
theory of anthropogenic period, theory of neo-tectonics, theory of geo-morphology,
theory of geology of ore minerals,
theory of geology of nonmetallic minerals,
theory of geology of the fields of oil, gas and condensates,
theory of geology of the deposits of coal, bituminous breeds and peat,
theory of the methods of search and investigation of the minerals deposits,
theory of the technics and technology of geological-prospecting works, theory of hydro-geology,
theory of engineering geology, theory of frozen-condition-of-ground-science,
theory of the cognitive modeling technology
in the theoretical geology;
the fundamental developments in the area
“ Theoretical mining ” –
theory of the technics and technology of development
of the deposits of firm minerals,
theory of development of the deposits of ores of the ferrous metals,
theory of development of the deposits of ores and looses
of the color and rare metals and diamonds,
theory of development of the deposits of coal and combustible slates,
theory of development of the deposits of peat,
theory of development of the deposits of building and road materials,
fire-resistant, ceramic, glass and mineral technical raw materials,
theory of development of the deposits of chemical and agricultural-chemical raw materials and salts,
theory of development of the deposits of precious jewels and ornamental stones,
theory of the enrichment of minerals,
theory of development of the oil and gas deposits,
theory of the cognitive modeling technology
in the theoretical mining;
the fundamental developments in the area
“ Theoretical metallurgy ” –
theory of metallurgical processes,
theory of metallurgical heating-engineering,
theory of the production of ferrous metals and alloys,
theory of the production of color (nonferrous) metals and alloys,
theory of powder metallurgy, theory of the metallurgy of semi-conductors,
theory of rolling production,
theory of drawing and hardware production, theory of the production of pipes,
theory of metallurgical-science, theory of the technical analysis in metallurgy,
theory of the cognitive modeling technology
in the theoretical metallurgy] .

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II. “The fundamental developments department
“Theory of oceanology, structure and physics of atmosphere,
geodesy, cartography and geography of The Earth and planets”” (“SOFAG”)
[the fundamental developments in the area
“ Theoretical oceanology ” –
 theory of oceanology, theory of applied oceanology,
 theory of aero-survey and photogrammetry,
 theory of topography, theory of photo-topography,
 theory of cartography, theory of oceanodesy,
 theory of mapping of the underwater world of The Earth and planets,
 theory of the cognitive modeling technology
 in the theoretical oceanology;
the fundamental developments in the area
“ Theoretical structure of atmosphere ” –
 theory of the structure of atmosphere, theory of aero-survey and photogrammetry,
 theory of topography, theory of photo-topography, theory of cartography,
 theory of planetodesy of atmosphere,
 theory of mapping of the atmosphere of The Earth and planets,
 theory of the cognitive modeling technology
 in the theoretical structure of atmosphere;
the fundamental developments in the area
“ Theoretical physics of atmosphere ” –
 theory of the questions of the atmosphere of The Earth and planets,
 theory of the general problems of the physical experiment of atmosphere,
 theory of physics of elementary particles of atmosphere, theory of fields of atmosphere,
 theory of physics of gases and liquids of atmosphere,
 theory of thermal-dynamics and statistical physics of atmosphere,
 theory of physics of micro-disperse firm bodies of atmosphere,
 theory of physics of plasma of atmosphere,
 theory of physics of atom and molecule of atmosphere,
 theory of optics of atmosphere, theory of radio-physics of atmosphere,
 theory of acoustics of atmosphere,
 theory of the cognitive modeling technology
 in the theoretical physics of atmosphere;
the fundamental developments in the area
“ Theoretical geodesy and cartography ” –
 theory of higher geodesy, theory of applied geodesy,
 theory of aerial-survey and photogrammetry,
 theory of topography, theory of photo-topography,
 theory of cartography, theory of selenodesy,
 theory of planetodesy, theory of mapping of The Moon and planets,
 theory of the cognitive modeling technology
 in the theoretical geodesy and cartography;
the fundamental developments in the area
“ Theoretical geography ” –
 theory of geography, theory of historical geography,
 theory of military geography, theory of physical geography,
 theory of economic and social geography,
 theory of regional-geography (country-science), theory of medical geography, theory of toponymics,
 theory of the cognitive modeling technology
 in the theoretical geography] .

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