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Z.I. IVANOVA

**INTERACTION OF HUMAN AND NATURE IN WESTERN AND EASTERN CULTURAL TRADITION**

*The article addresses the question of different attitude towards nature in traditional ethics of Western and Eastern nations - carriers of different types of civilization. In the East it is more cautious, but pervasion of Western industrial civilization to East brings business ethics, based on predatory attitude to nature. As a result: decline of ecological situation also in Eastern regions of the planet. The way out is possible only on the ground of new type of civilization, with another ecological ethics.*

***Keywords:*** *cultural tradition, business ethics, ecological ethics, attitude toward the world, anthropocentrism, industrial civilization, biosphere compatibility*

O.V. SERGEYCHUK, E.N. SCHERBAKOVA, MOCHAMAD DIB

**CLIMATIC ZONING OF UKRAINE AS A BASIS FOR THE DESIGN OF THE BIOSPHERE COMPATIBLE SETTLEMENTS**

*The basis of the modern normative architectural-construction climatic zoning of territory of Ukraine is presented. The zoning is based on analysis of new climate date, relevant to old climatic zoning map, architecture features of different regions of Ukraine and other factors have an impact on the typology of buildings and habitations. The new architecture-construction climatic zoning may give an opportunity for development of modern biosphere-compatible requirements to the typology of buildings and habitations.*

***Keywords:*** *physical-geographical regionalization, building climatic zoning, typology of buildings, climatic parameters*

V.V.ALEKSASHINA

**THE STRATEGY OF GLOBAL ENERGY DEVELOPMENT AND PROBLEMS BIOSPHERIC COMPATIBILITY**

*The article highlights the issues of negative influence of modern energy on the biosphere and suggests ways to reduce harmful effects on the environment. The main conclusion of the article is the refusal of carbon energy and its replacement with alternative types of energy production, harmless for humans and safe for the environment - biosphere.*

***Keywords:*** *ecology, the development of the world economy, fuels, global energy, fuel and energy resources, hydrocarbon energy, alternative fuels, global warming, greenhouse effect, climate issues.*

О.V. PYLYPENKO, V.G. ABASHIN

**URBANSPHERE. PERSONAL URBANSPHERE**

*The article introduces and justifying new concepts urbansphere and personal urbansphere. Personal urbansphere is a particular case of urbansphere and preserves all its properties. Preaccepted attempt to formalize the notion of urbansphere using fuzzy sets. Build models and systems aimed at equalization of the level of life of people in urban areas with function «Life support».*

***Keywords****: urbansphere, personal urbansphere, fuzzy sets.*

T.V. POLIVANOVA, B.B. BUROMSKY, K.A. FROLOV

**INNOVATIVE ECO-PROTECTIVE TECHNOLOGIES OF RECONSTRUCTION OF OBJECTS OF WATER SUPPLY AND WATER DISPOSAL OF SUGAR PLANTS**

*The main directions of decrease of negative influence on ecology of the location of the sugar factories is the use of modern technologies, applying maximum recycling systems, with minimal water discharge into drains, and modernization of technological processes and equipment used. Development of recycling water supply contributes to the solution of the issue of the protection of water resources from pollution and depletion, and is one of the stages of creation without outflow sugar production.*

***Keywords:*** *filtration fields, settlers, coolers, anaerobic reactor, biogas.*

V. A. ILYICHEV,V.I. KOLCHUNOV, E. A. SKOBELEVA, N.V. KLJUEVA

**THE METHOD OF THE REALIZATION LEVEL CALCULATION FOR FUNCTIONS OF BIOSPHER COMPATIBLE SETTLEMENTS IN ORDER TO SATISFY RATIONAL HUMAN NEEDS**

*The article describes a method of calculating the index of the level of implementation of functions of the city, based on the available statistical information. In a basis of the collective assessment of the level of implementation of functions of the city (settlement) based on the principles of the new doctrine of physical planning RAACS, based on the concept of biosphere compatibility of cities and settlements. For example, consider the calculation of the implementation of the function «life support» in the regions of the Central Federal district of the Russian Federation in 2011.*

***Key words:*** *the realization level, the function of the city, biospher compatible technology, life support, the criteria*

D. V. Matyushin

**THE RESULTS OF MONITORING OF ENVIRONMENTAL SAFETY OF THE TRANSPORT SYSTEM OF THE CITY (ON CASE OF OREL)**

*In this work the results of the monitoring of environmental safety of the transport system of urban development are presented. Monitoring was carried out from a position of accounting internal and external trends of the city and in comparing the effect of these influences in the projection of human development in the urban area. The visualization of data of monitoring are exemplified in the form of electronic schematic maps.*

***Keywords****: monitoring, environmental safety, transport system of the city, visualization*

S.G. YEMELYANOV, E.V. BRUMA

**Calculation of parameters for assessing the compatibility of biospheric urban areas**

*The method for evaluation of biospheric territory compatibility by comparing the relative magnitudes of the areas of gardening necessary to ensure the territory of oxygen and absorb carbon dioxide from the actual parameters of forest plantationis.*

***Keywords****:* *Biosphere compatibility, forestry plantation, the absorption of carbon dioxide, oxygen evolution, people with limited mobility*

N.S. KOBELEV, V.N. KOBELEV, V.G. SEMERINOV, S.A. FILATOVA,

A.M. SAMOKHVALOV

**THE SYSTEM OF ECOLOGICAL HEATING OF PRODUCTION PREMISES WITH VORTEX HEAT EXCHANGER**

*Offered constructive solution of vortex heat exchanger system localized heating of industrial buildings, providing ecologically clean parameters of heat supply by eliminating the combustion of natural gas in the production of thermal energy.*

***Keywords:*** *natural gas, thermal energy, heating system, the biosphere-joint technology*

O.P. SIDELNIKOVA

**RADIATION AND ECOLOGICAL ASPECTS OF BUILDING CONSTRUCTION**

*Natural radioactive nuclides are the main reason of mean dose of population. Since people most of their time spend inside radiation background in buildings is considered to be one of the negative impacts of environment, a kind of radiation that has a great influence on population. Nowadays after the adoption of federal laws «On radiation security of population» № 3 from 01.09.1996 «On sanitary and epidemiological welfare of population» № 52 from 03.30 1999, and also «Radiation safety standards» (NRB-99/2009), «Principal sanitary radiation safety rules» (OSPORB-99/2009) the approach towards the radiation control management in a building sector has changed a lot, and consequently, the approach towards the management of radiation security of population.*

***Key words:*** *natural radioactive nuclides, radiation background in buildings, effective specific activity, equivalent volumetric activity, radon daughter, radon flux density, radiation security*

N. S. BARIKAYEVA, A.B.STRELYAEV, I.V.TERTISHNIKOV

**ABOUT RESEARCH METHODS DISPERSE STRUCTURE OF THE DUST IN AIR OF THE URBAN ENVIRONMENT**

*In article the comparative analysis of disperse structure of a dust is carried out by three methods: by means of the laser analyzer of the sizes of particles in the gas environment, the liquid environment, and a microscopic method. Results of research of disperse structure and concentration of a dust are given in air of an urban environment.*

***Keywords:*** *dust, disperse structure, microscopic method, laser method, concentration, PM10, PM2,5*

N.S. SOKOLENKO, V.S. YEZHOV

**EXPERIMENTAL DETERMINATION OF EFFICIENCY OF PURIFICATION OF COMBUSTION GASES FROM HARMFUL COMPONENTS OF HEATGENERATORS OF SYSTEMS OF THE AUTONOMOUS HEAT SUPPLY OF RESIDENTIAL BUILDINGS**

*This article is devoted to a technique of carrying out experiment on purification of combustion gases of heatgenerators of systems of an autonomous heat supply. In it experiment is described, schedules by the received results are executed and conclusions are drawn.*

***Keywords:*** *Heatgenerator, purification of combustion gases, technique of carrying out experiment.*

B. K. SANZHAPOV, O. A.CHEREMUSHKIN

**THE DISTRIBUTED SIMULATION SYSTEM TO SUPPORT DECISION-MAKING TO REDUCE THE ENVIRONMENTAL LOAD OF CEMENT PRODUCTION**

*The methodology for calculating the amount of emissions in the cement industry, and suggests approaches to reduce human impact on the environment*

***Keywords****: environmental security, the fuzzy inference system, fuzzy neural network, fuzzy reversible quasiseries*

V.N. AZAROV, S.A. KOSHKAREV, E.V. SOKOLAVA

**THE PROBLEM VOLUMES’ DIMENSION FOR REDUCING EMISSIONS OF DANGEROUS POLLUTIONS HEAVY CARBON-HYDROGENOUS SUBSTANCES**

*There is analysis of the calculating results of increasing volumes’ of dangerous substances exhausted in the atmosphere from gas-supplying complexes’ situated within city’s territories in this article. It was made comparison and conclusion about several relative density numbers (criteria) of gas-supplying complexes in Europe and Russia choosing approaches of reduction emissions of dangerous pollutions for these gas-supplying complexes’. Volumes’ of dangerous substances exhausted in the atmosphere are increasing for these times. So that the technological ways to reduce emissions of ingredient’s pollutions (heavy carbon-hydrogenous) are essential for those gas-supplying complexes.*

***Keywords:*** *relative density numbers (criteria), dangerous substances, gas-supplying complexes’, emissions pollutions.*

T.V. DONCOVA

**ASSESSMENT OF THE INTERDISTRICT TRANSport OF POLLUTING SUBSTANCES IN THE LARGE INDUSTRIAL CITY OF VOLGOGRAD**

*The assessment of the interdistrict transport of polluting substances in the city of Volgograd for 2010-2011 is presented in the article*

***Keywords****: interdistrict transport of polluting substances, the concept of biosphere сompatibility, wind regime, wind rose*

S.A. KOBELEVA

**APPROACHES TO FORMATION OF THE HOUSING SPHERE OF THE CITY ON THE BASIS OF THE CONCEPT OF BIOSPHERIC COMPATIBILITY**

*In the article questions of reproduction of the housing sphere of the city on the basis of the concept of biospheric compatibility are considered. The housing sphere is presented as an element of the natural-social-technical system considering balanced interaction of subsystems making it. Destabilizing and stabilizing factors of impact on the housing sphere are defined. Parallels with the international indicator – a happyplanetindex.*

***Keywords:*** *happy planet index, biospheric compatibility, housing sphere*