

ENERGY TECHNOLOGIES AND RESOURCE SAVING

Scientific-Technical Journal

Founded in January, 1960. Comes out 6 times a year

№ 1, 2010

Contents

- 3 Karp I.N.** «Energy Technologies and Resource Saving» – 50 Years

Fuel and Energetics

- 6 Makarov A.A.** The Problems and Prospects of Russian Fuel and Energy Complex
- 11 Soroka B.S., Kudryavtsev V.S., Karabchievskaya R.S.** Energy and Environmental Analysis of Fuel and Energy Utilization Efficiency by Means of Mathematical and Computer Modelling. 1. Calculation Procedure of Energy Efficiency Account and Thermal Physics Studying of the Technique
- 21 Boychenko S.V., Sidorenko N.A., Chernyak L.N.** The Estimation and Prediction Method of Automobile Petrols Physical Stability Approximation

Raw Materials Processing and Resource Saving

- 24 Antonenko L.P., Bilan A.D., Butmarchuk T.A., Skladanyi D.N.** The Application of Cationic Starches for Paper and Cardboard Products Manufacture
- 30 Kopyt N.Kh., Sadlij T.P., Kalinchak V.V., Milova L.G., Kopyt N.N.** The Dissolved Gases Influence on Titanium Energy Characteristics

Wastes Purification and Processing

- 35 Pasichny V.V., Zenkov V.S., Klimenko V.P., Pasichna M.S., Gavrilova O.N.** The Investigation of Hydrogen Production Process in Solar Furnaces by Iron and Vapor Method with Metallurgical Waste Products Utilization
- 44 Bezuglyi V.K., Bondarenko B.I., Vinogradova T.V., Semenyuk N.I.** Prevention of PCDD and PCDF Formation During Thermochemical Destruction of Municipal Solid Wastes

Environment Protection

- 48 Sigal I.Ya., Duboshyi A.N., Sigal O.I., Smikhula A.V.** The Efficiency Increase of Smoked Gases Recirculation Influence on Nitrogen Oxides Emission from Power Plant Boilers Reduction
- 53 Shabliy T.A., Makarenko I.M., Goltvianytka O.V.** The Efficient Technology of Water Demineralization for Industrial Water Consumption Development
- 59 Gomelya N.D., Krysenko T.V., Kamaev V.S.** Filtrates of Paper and Cardboard Manufacture Utilization after Sediments Condensation
- 62 Anisimov V.S., Martynov P.N., Merkov S.M., Petrov K.V., Podzorova Ye.A., Chaban A.Yu., Shilina A.S.** The Investigation of Tripoli Application for Water Mediums Purification
- 66 Stepova N.G.** Ecological Aspects of Waste Waters Penetration to the Ground (Review)

Devices and Equipment

- 72 Torchinskiy A.I., Lyashko A.J., Sergienko A.A., Kryachok J.N.** Ceramic Brick Manufacture Tunnel Furnaces Modernization. 1. The Program of the Tunnel Furnaces Modernization Concept and Realization
- 76 Matveyenko V.T., Ocheretyanny V.A., Andriyets A.G.** Complex Cycle Gas Turbine Engines for Oil and Gas Transport Installation

ENERGY TECHNOLOGIES AND RESOURCE SAVING

Scientific-Technical Journal

Founded in January, 1960. Comes out 6 times a year

№ 2, 2010

Contents

Fuel and Energetics

- 3** Osipov A.M., Shendrik T.G., Popov A.F., Grishchuk S.V. The Prospect Methods of Ash-Free Coal Manufacture from Power-Generating Coals (Review)
- 8** Troshenkin V.B., Markosova V. P., Troshenkin B.A. Electrochemical Coal Gasification. 2. Thermodynamic Estimations
- 13** Stepanov A.V., Matusevich G.G., Polunkin E.V. Fuel Gasification with Adsorptive Air Separation and Natural Gas Substitute Manufacture

Energy Saving Technologies

- 19** Sigal I.Ya., Lavrencov E.M., Sigal A.I., Kuchin G.P., Skripko V.Ya., Bykorez E.I. Modernization of Water-Heating Boilers with Capacity up to 1 MW
- 23** Pylypenko R.A., Pylypenko A.V., Logvynenko D.M. Tunnel Kilns for Brick Burning Efficiency Increase

Raw Materials Processing and Resource Saving

- 27** Denisov A.A. Sulfur Dioxide Catalytic Conversion by Carbon Monoxide
- 33** Rustamova S.T., Abbasova N.I., Ahmedov M.M., Talybly I.A. The Influence of Carrier Chemical Modification on Nickel and Clinoptilolite Catalysts Properties in the Process of Gas Synthesis Obtaining by Carbon Dioxide Methane Conversion
- 38** Barbash V.A., Makarenko A.A., Bondar R.V., Bondar S.Ye., Trembus I.V. Fibrous Semifinished Products Obtaining from Copro Sugar

Wastes Purification and Processing

- 42** Ennan A.A., Asaulova T.A., Baidenko V.I. The Production of Nonwoven Needle-Punched Sorbtion and Filtering Materials from Ion Exchange Fibrous Wastes
- 46** Klishchenko R.Ye., Kosorukov A.A., Chebotareva R.D., Goncharuk V.V. Non-Ferrous Metals Extraction from Galvanic Manufacture Sludge

Environment Protection

- 51** Suvorin A.V. The Aerohydrodynamical Characteristic of Nitrogen Oxides Chemosorbtion and Metals Extraction from Spent Catalysts Combined Process
- 55** Gee D.G. Let Climate take Time-Out

Devices and Equipment

- 57** Torchinskyi A.I., Lyashko A.J., Sergienko A.A., Kryachok J.N. Tunnel Furnaces Stock for Ceramic Brick Manufacture Modernization. 2. The Furnaces Heating System Development
- 61** Pospelov A.P., Pilipenko A.I., Lebed Ye.K., Alexandrov Yu.L., Bayrachny V.B., Kamarchuk G.V. Gas-Sensitive Point Contacts in Gelatin-Immobilized and Solid Electrolytes

Brief Communications

- 65** Dmitrikov V.P., Protsenko A.V. Reagent Utilization of Iron-Nickel Waste Accumulators. 2. Accumulators Recycling and Processing Circuit
- 67** Velikodny V.A., Pikaschov V.S. The Technology of Phenolic Water Recycling
- 70** Gogenko O.A., Sydorskyi A.V., Tolstun O.I., Gogenko O.O. The Preparation of Ferrous Wastes of Sintering, Steelmaking and Rolling Manufactures with Activated Peat Application
- 72** Dyachok V.V., Malovanyy M.S. Certain Aspects of Vegetative Raw Material Mixes Extraction
- 75** Kurbatov Yu.L., Novikova Ye.V., Podzorov A.I. Electrophysical Influence Application for Steel Blocks Heating Technology in Continuous Pusher-Type Furnaces
- 77** Burdeyniy D.M., Shatalov V.I., Svetlichna U.I. Energy and Fertilizers from Biomass Manufacture

ENERGY TECHNOLOGIES AND RESOURCE SAVING

Scientific-Technical Journal

Founded in January, 1960. Comes out 6 times a year

№ 3, 2010

Contents

Fuel and Energetics

- 3** Bulyandra A.F., Maystrenko I.A. The Features of Alexandria Brown Coals Cokes Interaction with Oxygen of Air
9 Karp I.N., Provalov A.Y., Pyanych K.E., Yudin A.S. The Research of Sawdust and Sunflower Husks Burn-out Time Dynamic in Fluidized Bed
14 Darvay I.Ya., Karpash O.M., Karpash M.O. The Theoretical Substantiation of a New Method of Natural Gas Combustion Heat Determination

Energy Saving Technologies

- 18** Pivnyak G.G., Razumny Yu.T., Rukhlov A.V. The Efficiency of Coal Use in Power Engineering
25 Agyeyev K.V. Recuperative Air Heating as the Method of Furnaces Units Energy Efficiency Increase (Review)

Raw Materials Processing and Resource Saving

- 34** Dzhambek A.A., Dzhambek O.I., Makordey F.V., Ishkov Yu.V., Blayda I .A. Oxygen and Zinc Rechargeable Element with Cathode on the Basis of Nonmetallic Electrocatalysts
38 Khvastukhin Ju.I., Kostogryz K.P. Energy Efficiency Technology of Sand Drying in Fluidized Bed Apparatus

Wastes Purification and Processing

- 45** Trubnikova L.V. New Approach in the Technology of Metals Electroextraction from the System of Galvanic Lines Rinsing Baths
53 Ennan A.A., Asaulova T.A., Baidenko V.I. Porous Fiber Plastics as Chemisorbents from Ion-Exchange Fibrous Materials Wastes for Respiratory Purpose

Environment Protection

- 59** Boychenko S.V., Kovtun A.K. The Exhaust Gases of Internal-Combustion Engines Neutralization Systems Evolution
65 Sigal I.J., Smikhula A.V., Dombrowska E.P., Duboshiy O.M., Bereshchuk P.I., Kuts V.P. The Sulphur Catching Equipment Installation on Coal Power Plants
69 Khokhlova L.Y., Kornilovych B.Yu., Khokhlova A.V., Lapko V.V., Wang Jianing The Influence of Xeroprotectors on Carbon Biosorbent Biodestructive Activity Relative to Oil Hydrocarbons Steady Compounds

Devices and Equipment

- 75** Ludanov K.I. The Parameters Calculation of Solar Collector Anticonvection Structure

ENERGY TECHNOLOGIES AND RESOURCE SAVING

Scientific-Technical Journal

Founded in January, 1960. Comes out 6 times a year

№ 4, 2010

Contents

Fuel and Energetics

- 3 Soroka B.S., Bradulov P.A.** Definition of Principal Characteristics of Gas Mixtures Combustion. 2. Computations of the Burning Velocities of the Gas Mixtures by Means of Two-Parametric Generalization
- 10 Provalov A.Yu.** The Interaction Character of Coal Enrichment Coke Wastes and Steam Coals with Air Oxygen in Fluidized Bed
- 15 Monastyreva T.N.** The Investigation of Carbon-Dioxide Gasification of Coal Cokes with Metamorphism Different Degree

Energy Saving Technologies

- 25 Agyeyev K.V.** The Impinging Jets Technology in Recuperator Active Jet Inserts for Furnaces Units Energy Efficiency Increase (Review)

Raw Materials Processing and Resource Saving

- 28 Antonenko L.P., Bilan A.D., Skladannyj D.M.** The Cationic Starches Influence on Fiber in Cardboard Products Manufacture
- 33 Bilousova N.A., Donchenko M.I., Redko R.M., Gerasymenko Yu.S.** The Methods of Ecologically Safe Steel Protection from Water Corrosion. 1. The Influence of Water Mineralization on Low-Carbon Steel Corrosion
- 37 Syza O.I., Savchenko O.N., Chelyabieva V.N., Mytyai N.I.** Environmental Resources for Steel Corrosion Protection
- 42 Bondarenko B.I., Nebesniy A.A., Filonenko D.S., Svyatenko A.M., Bezuglyi V.K.** The Generalized Analysis of Carbon Interchange in H-O-C-(C_{solv}) Systems. Carbon Activity Influence

Wastes Purification and Processing

- 45 Ukhaneva M.I.** Radiochemical Estimation of Ash-and-Slag Waste Products as Raw for Building Materials Manufacture
- 53 Zhuk H.V., Bondarenko B.I., Ivachkin Ja.A.** Thermal Processing of Municipal Solid Wastes: Technological Schemes and Development Trends

Environment Protection

- 57 Hasanov G.S., Abdullaev F.Z., Ismailov N.M.** Petroleum Industry Adaptation to Absheron Peninsulas Ecological Systems
- 63 Datsenko V.V., Khabotova E.B., Dmitrenko N.V.** Waters Purification by Cavitation Oil Processing from Chlorine Ions
- 66 Kolesnyk V.V., Orlyk V.M.** The Features of Heterogeneous Reactions Modeling Subject to Interphase Convective Flow

Devices and Equipment

- 75 Marchuk Yu.V., Prazhennik Yu.G., Bondarenko B.I.** The Equipment for Technological Atmospheres Production (Review)

ENERGY TECHNOLOGIES AND RESOURCE SAVING

Scientific-Technical Journal

Founded in January, 1960. Comes out 6 times a year

№ 5, 2010

Contents

Fuel and Energetics

- 3** Makarova K.V., Savinskiy D.P., Makarov A.S., Egurnov A.I. Water and Coal Fuel on Anthracite Basis
- 10** Maystrenko A.Yu., Rohman B.B., Topal A.I., Vyfatniuk V.G., Chernyavskiy N.V. The Engineering Calculation Method and Results of Circulating Fluidized Bed Boiler Calculation Research
- 13** Karp I.N., Kolesnik V.V., Orlyk V.N., Pyanykh K.E., Yudin A.S. Mathematical Modelling of a Wood Particle Combustion Process
- 21** Zhovtyansky V.A., Dudnyk O.M., Nevzglyad I.O. Bioethanol Plasma Conversion into Dry Synthesis-Gas
- 28** Krushnevich S.P. The Method and Program for Natural Gas Combustion Temperature Computation

Energy Saving Technologies

- 32** Fialko N.M., Sherenkovsky Ju.V., Stepanova A.I., Navrodska R.A., Sarioglo A.G., Shevchuk S.I. The Efficiency of Glass Furnaces Heat Utilizers of Different Types

Raw Materials Processing and Resource Saving

- 40** Manchuk N.M., Ivanov S.V., Korzh A.V. Hydroxideapatite Adsorbent Obtaining for Heavy Oil Raw Demetallisation
- 45** Tussupbayev N.K. The Features of Butyl Triethylene Tetramine Influence by Sulphidic Minerals Selective Flotation
- 50** Pavlenko T.V., Rudkovska L.M., Omelchuk A.O., Onishchuk S.F. Zirconium Concentrate Autoclave Decomposition at the Presence of Calcium Fluoride

Wastes Purification and Processing

- 54** Blyada I.A., Vasyleva T.V., Khitrich V.F., Slyusarenko L.I., Barba I.N. Microbiological Component of Initial Raw Influence on the Process of Germanium Containing Wastes Leaching
- 58** Sviderskiy V.A., Bondar A.A., Grechanyuk V.G. The Influence of Skop Different Types on Frost Resistance of Thermal Protection Materials

Environment Protection

- 61** Kashkovsky V.I., Sinjakov U.B., Gorbenko V.N., Valchuk D.G. Complex Processing Technology of Ground Filtrational Waters of Solid Municipal Wastes

Devices and Equipment

- 68** Olabin V.M., Maksymuk O.B. Evolution of Multinozzle Submerged Combustion Burners for Melting Bubble Furnaces (Review)
- 72** Ryzhkov S.S., Litvinov I.V. The Experimental Installation for Processes of Gas Flow Cleaning from Liquid Highly Dispersed Particles Investigation
- 76** Pikaschov V.S., Velikodnyy V.A., Osievsky V.A. The Experimental Investigation of Annular Injector for Plane Grazing Jet Burners

Information

- 81** Iliencko B.K. XXI World Energy Congress

ENERGY TECHNOLOGIES AND RESOURCE SAVING

Scientific-Technical Journal

Founded in January, 1960. Comes out 6 times a year

№ 6, 2010

Contents

Fuel and Energetics

- 3** Yurchenko M.M., Topal O.I., Levchenko N.I. The Analysis of Existing Methods of Solid Fuel Heat Treatment in Pre-Combustors (Review)
- 11** Zolotariov I.V., Tamko V.A., Shendrik T.G., Zbykovsky E.I. The New Approach for Blast-Furnace Coke Quality Increase
- 15** Bezrodny M.K., Drozdova O.I. Energy Analysis of Heat Pump Heating System
- 19** Sofiysky I.Yu., Puhly V.A., Miroshnichenko S.T. Thermal Pumps Application for Centralized Heat Supply System of Sevastopol

Raw Materials Processing and Resource Saving

- 23** Marchuk Yu.V. The Investigation of Autothermal Natural Gas Conversion with Air
- 27** Kutovoy V.A., Nikolaenko A.A. Zirconium Hydroxide Obtaining by Thermal and Vacuum Method
- 30** Rakityanskaya O.F., Truchanova L.V., Polischuk V.E. Characteristics Optimisation of Tubular-Plate Electrodes for Chemical Current Sources
- 35** Rustamova S.T., Ahmedov M.M., Abbasova N.I., Talybly A.I., Munishieva M.K., Ganbarov D.M., Alieva S.B. Zeolite of Chabazite Type Synthesis and Catalysts on Zeolite Basis Properties Investigation During Carbon Dioxide Methane Conversion

Wastes Purification and Processing

- 39** Blyda I.A. Extraction of Valuable Metals During Industrial Wastes Processing by Biotechnological Methods (Review)
- 45** Grabovskiy O.V., Barbash V.A., Shabanov M.V. Fire-Resistant Pressed Building Plates of Plant Raw Materials
- 48** Kupchik L.A., Denisovich V.A., Nikolaichuk A.A. Ecological Objectives Sorbents Manufacture from Buckwheat Husk

Environment Protection

- 51** Kashkovsky V.I., Sinjakov U.B., Gorbenko V.N., Valchuk D.G. The Reagent Purification Technology of Filtration Waters from Solid Domestic Wastes Polygons
- 57** Stavitskaya S.S., Sych N.V., Vikarchuk V.M., Tzyba N.N., Petrenko T.P. The Properties Investigation of Novel Composite Materials on Bottom Sediments and Carbon Sorbents Basis
- 63** Shabliy T.A. Alkaline and Neutral Regeneration Solutions of Ion-Exchange Water Softening Treatment by Electrolysis Method
- 66** Butenko A.G., Smyk S.Yu. Combined System of Air Clearing

Devices and Equipment

- 70** Lavrentsov E.M., Sigal I.J., Smikhula A.V., Berezanskiy V.V., Ovchar V.V. Water Boilers of TVG Type Modernization
- 76** Vozniuk V.T., Karvatskii A.Ya., Mikulionok I.O. The Simulation of Double-Layer Corrugated Polymeric Pipes Refrigeration