

CONTENTS

INDUSTRIAL ENGINEERING

Podyman H.S.

AIR CIRCULATION INSIDE A POLYMER PIPE DURING CALIBRATION.....1

Rubanka M.M., Dvorzhak V.M., Zaliubovskiy M.H., Nychehlod V.V., Dromenko V.B.

EXPERIMENTAL DETERMINATION OF THE MOMENT OF INERTIA OF THE ROTATING
MASSES ON THE ROTOR SHAFT OF A ROTARY CRUSHER FOR THE PROCESSING
OF POLYMER WASTE.....8

Rudasov V.B., Holovina O.V., Yakubovskiy O.M.

STRESS-STRAIN STATE DURING THE STAMPING OF THIN-GAUGE STEELS
FOR AUTOMOTIVE COMPONENTS AND ITS RELATIONSHIP TO MATERIAL PROPERTIES.....15

AIRCRAFT AND AEROSPACE TECHNIQUES

Stratonov V.M.

PROBLEMS OF INTER-SUBJECT INTERACTION IN THE "PILOT – AIR TRAFFIC
CONTROLLER - RESCUER" SYSTEM DURING AIRCRAFT FIRES.....26

Younis B.N.

FINITE ELEMENT MODELLING OF LAYERED COMPOSITE PANELS FOR AEROSPACE
STRUCTURES: MESH SENSITIVITY, BOUNDARY CONDITIONS, AND BUCKLING
BEHAVIOUR UNDER COMBINED LOADING.....33

SHIPBUILDING

Kazariezov A.Ya.

THE APPLICATION FEATURES OF THE SYSTEM APPROACH IN AN AUTONOMOUS
UNDERWATER EQUIPMENT WITH A TOWED RADIOBUOY DESIGN.....40

Kazymyrenko Yu.O., Hrudinina H.S.

METHODOLOGY FOR DESIGNING HOUSING STRUCTURES FOR UNDERWATER VEHICLES..45

ELECTRICAL ENGINEERING

Maksysko O.R.

FUNDAMENTALS OF SMART ELECTROMECHANICAL SYSTEMS.....50

Trotsenko Ye.O., Nesterko A.B., Protsenko O.R., Peretyatko Yu.V.

ANALYSIS OF THE INFLUENCE OF CORONA DISCHARGES ON THE RELIABILITY
OF SURFACE DISCHARGE MEASUREMENTS IN HIGH-VOLTAGE ELECTRICAL
INSTALLATIONS.....59

EQUIPMENT

Haidai H.Yu., Hrieshnov A.Yu.

AUTOMATED MOBILE DEVICE FOR CHECKING
THE GEOMETRY ACCURACY OF CALIBRATION PLATES.....67

RADIO ENGINEERING AND TELECOMMUNICATIONS

Hurzhiy S.V.

ASPECTS OF DECENTRALIZING THE COMMUNICATION SYSTEM FOR COORDINATING
UAVS/UGVS IN THE PRESENCE OF RADIO FREQUENCY INTERFERENCE.....73

Katin P.Yu, Yatsenko D.V., Mishyn O.V.

EXPERIMENTAL STUDY OF TRANSMISSION AND PROCESSING LATENCY OF GNSS DATA
IN DIFFERENT DATA REPRESENTATION FORMATS FOR IOT SYSTEMS.....80

Movchan K.O.

CURRENT TRENDS IN THE DEVELOPMENT OF ADAPTIVE COMMUNICATION
PROTOCOLS FOR TACTICAL UAV AND UGV NETWORKS.....88

Morshchavka S.V., Bugrova T.I., Chornoborodov M.P., Logacheva L.M., Samoylyk S.S. RADIO NETWORK COVERAGE PREDICTION METHODS USING DEEP LEARNING AND DECOMPOSITION APPROACH BASED ON CELLULAR AUTOMATA.....	96
Sereda S.S., Kravchenko P.O. METHODS OF WIRELESS DATA TRANSMISSION BETWEEN UNMANNED AERIAL VEHICLES IN A SWARM.....	103
Skolets S.S., Kravchuk S.O. COMPREHENSIVE E2E QOS ASSESSMENT METHOD VIA INTEGRATED RAN AND SDN-TRANSPORT MODELING IN 5G NETWORKS.....	110
Sudakov Ye.V., Sokol H.V. METHOD FOR ESTIMATING AVERAGE PACKET DELAY IN NETWORKS WITH MIMO TECHNOLOGY AND RANDOM ACCESS.....	118

POWER ENGINEERING

Alfimov Ye.B. OPERATIONAL MANEUVERING OF SMALL MODULAR REACTOR IN DAILY BALANCING UNDER HIGH SOLAR AND WIND GENERATION.....	124
Bednarska I.S. Lishchuk S.R. ASSESSMENT OF ENERGY EFFICIENCY OF THERMAL INSULATION OF CHP POWER UNIT EQUIPMENT IN THE POST-REPAIR PERIOD.....	132
Eyyubova K. COMPARATIVE THERMODYNAMIC ANALYSIS OF DIFFERENT TYPES OF HEAT EXCHANGERS.....	137
Klymenko V.M., Avdieieva O.P., Usatyy O.P. MULTI-CRITERIA OPTIMIZATION OF GAS TURBINE BLADE MATERIALS BASED ON LIFE CYCLE ASSESSMENT: INTEGRATING ECONOMIC, ENVIRONMENTAL, AND PERFORMANCE METRICS.....	144
Lavrishchev O.O., Novosyletsky Yu.L., Logvinov G.S. COMPARATIVE ANALYSIS OF THE ENERGY EFFICIENCY OF DIFFERENT TYPES OF HEAT PUMPS UNDER VARIABLE OUTDOOR TEMPERATURE CONDITIONS.....	151
Rachynskyy A.Yu., Baranyuk O.V., Onysko A.I., Pikenin O.O. MODELING OF FIRE PROCESSES IN THE DKVR-10-13 BOILER WHEN COMBUSTING BIOGENIC FUEL AT VARIABLE OPERATING MODES.....	156
Tortika D.M. HEAT TREATMENT OF DIELECTRIC MATERIALS IN THE MANUFACTURE OF FUNCTIONAL GRADIENT MATERIALS USING MICROWAVE HEATING.....	165

METALLURGY

Barmin O.Ye. EFFECT OF TUNGSTEN ON THE GRAIN STRUCTURE AND PROPERTIES OF IRON-BASED ALLOYS.....	171
--	-----

CHEMICAL TECHNOLOGY

Yefimenko O.V. DETERMINATION OF THE COMPONENT COMPOSITION AND PHYSICO-CHEMICAL INDICATORS OF BIOMETHANE BY CHROMATOGRAPHIC METHOD.....	177
Koval M.G., Yashchuk L.B. A STUDY OF COST SAVINGS FROM DIRECT DYES IN THE RECYCLING OF CONCENTRATED WASTEWATER DURING THE DYEING OF COTTON FABRICS.....	187
Nesterenko M.B. INFLUENCE OF THE CHARACTERISTICS OF MINERAL FILLERS (LIMESTONE AND SAND) ON THE FORMATION OF THE PORE STRUCTURE AND FROST RESISTANCE OF DRY BUILDING MIXTURES.....	197

Rumiantseva M.O., Mysov O.P., Savchenko M.A. COMPUTER MODELING OF THE SILICA PRECIPITATION PROCESS BY THE SULFURIC ACID METHOD (PART II).....	203
Smirnov D.O., Ushakov D.R. THEORETICAL ASPECTS OF FORMATION OF CEMENT SYSTEMS BASED ON BARIUM ALUMINATES AND ZIRCONATES	210
Frolova L.A., Saltykov D.Yu., Mandryka A.H, Frolov O.O. INFLUENCE OF SYNTHESIS PARAMETERS ON THE MICROWAVE CHARACTERISTICS OF COBALT FERRITE.....	218

TECHNOLOGY OF FOOD PROCESSING AND CONSUMER GOODS INDUSTRY

Kramarenko D.P., Hirenko N.I. DEVELOPMENT OF A MATHEMATICAL MODEL OF THE PROCESS OF EVAPORATION OF A LIQUID FOOD MEDIUM UNDER NON-STATIONARY CONDITIONS.....	227
---	-----

TRANSPORT

Vilshaniuk M.S. LOGISTICAL ASPECTS OF GRAIN EXPORTS: CHOOSING AN EFFICIENT DELIVERY METHOD...	234
Gildeev D.O., Onyshchenko S.P. CONCEPT OF THE CARGO DELIVERY SYSTEMS FORMATION AND OPTIMIZATION TAKING INTO ACCOUNT EMISSIONS.....	239
Yesyev A.I. MODERNIZATION OF LIFEBOATS USING SOLAR PANELS.....	245
Zhuk M.M., Pivtorak H.M., Skyba M.B. SPATIO-TEMPORAL DISTRIBUTION OF DEMAND FOR SHOPPING TRIPS (CASE STUDY OF LVIV).....	252
Kyrylova V.Yu., Kyrylova O.V. TRIADIC CONCEPTUAL MODEL OF PORT SYSTEM DEVELOPMENT: SMART PORT, PUBLIC–PRIVATE PARTNERSHIP, PEOPLE–PLANET–PROFIT.....	258
Kovalenko N.O. PROBLEMS AND PROSPECTS OF DIGITAL TRANSFORMATION IN AVIATION MANAGEMENT: AN ENGINEERING-ECONOMIC AND ENGINEERING APPROACH.....	269
Kolodnenko V.M., Tatsenko O.V., Voloshko T.P., Rudenko V.A., Reshetilo S.O. LOGISTICS RISKS OF INTERNATIONAL ROAD TRANSPORTATION AND WAYS OF THEIR MINIMIZATION.....	275
Reshetkov D.M., Pavlova N.L. PROBLEMS OF OVERLOADING OF SEAPORTS.....	280
Sokolova O.Ye., Borets I.V. MULTICRITERIA OPTIMIZATION OF CARGO HANDLING PROCESSES IN AN AIRPORT NODE OF AN INTEGRATED TRANSPORT AND LOGISTICS SYSTEM.....	288
Tomchakovskiy G.G., Kucherenko N.V., Kapochkina M.B. THE SUMMER MONSOON VARIABILITY IN THE ARABIAN SEA.....	297
Fomenko H.R. THE DEVELOPMENT OF SMART CITIES – A PATH TO A BETTER LIFE.....	307

ELECTRONICS

Makarenko V.V. EFFICIENCY ANALYSIS OF THE USE OF COUPLED INDUCTIVE COILS IN DC/DC POWER CONVERTERS.....	313
INFORMATION ABOUT AUTHORS.....	319