

International Scientific Conference "Construction and Architecture: Theory and Practice of Innovative Development" (CATPID-2021 Part 1)

E3S Web of Conferences Volume 281 (2021)

Nalchik, Russia
1 - 5 July 2021

Book 1 of 2

Editor:

Batyr Yazyev

ISBN: 978-1-7138-3238-6

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

This work is licensed under a Creative Commons Attribution 4.0 International License. License details:
<http://creativecommons.org/licenses/by/4.0/>.

No changes have been made to the content of these proceedings. There may be changes to pagination and minor adjustments for aesthetics.

Printed with permission by Curran Associates, Inc. (2022)

For additional information, please contact EDP Sciences – Web of Conferences at the address below.

EDP Sciences – Web of Conferences
17, Avenue du Hoggar
Parc d'Activité de Courtabœuf
BP 112
F-91944 Les Ulis Cedex A
France

Phone: +33 (0) 1 69 18 75 75

Fax: +33 (0) 1 69 28 84 91

contact-edps@webofconferences.org

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2633
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

DQQM1

About Natural Oscillations Thin Elastic Wavy Non-Circular Shell	1
<i>Eryomin Victor</i>	
Implementation of Incremental Yield Conditions in Spherical Coordinates	7
<i>Kalashnikov Sergey, Gurova Elena</i>	
Determination of the Air Separator Circulation Path Parameters	15
<i>Sharapov Rinat</i>	
Determination of the Ball Mills Performance, Taking into Account the Particle Size of the Finished Product	22
<i>Sharapov Rashid</i>	
Axisymmetric Bending of a Circular Three-Layer Plate Taking into Account Creep	31
<i>Chepurmenko Anton, Vysokovskiy Dmitriy, Rusakova Elizaveta, Vanja Vladimir, Yazyev Serdar</i>	
Mathematical Modeling of Gas Flow Distribution Process in the Gas Transportation System of Armenia	38
<i>Pirumyan Narine, Stakyan Mihran</i>	
Stress-Strain State of Concrete Filled Steel Tubular Columns of Annular Cross-Section Taking into Account Physical Nonlinearity	47
<i>Khashkhozhev Kazbek, Chepurmenko Anton, Polyakova Tatyana, Grigoryan Marina, Yazyev Batyr</i>	
Current Asset Management of Military Construction Joint Stock Corporations	54
<i>Thi Khanh Van Hoang, Quoc Toan Nguyen, Hoang Long Le</i>	
Mechanical Characteristics Research of New Asphalt Pavement Structure Based on Geogrid	64
<i>Ni Guangcong, Zhang Xiaomeng, Xu Xizhong, Uglova E.</i>	
Augmented Lagrangian Method for Imposing Nonlinear Multi Freedom Constraints in Static Analysis for Frames Using FEM	77
<i>Bich Quyen Vu Thi, Tien Dao Ngoc, Van Tran Thi Thuy, Van Dat Pham</i>	
Estimation of the Industrial Building Reinforced Concrete Beams' Residual Life Under Corrosive Media Influence	84
<i>Gritsenko Boris, Pshenichkina Valeria, Glukhov Anton, Sidorova Natalia</i>	
Partial Prestressing as a Method of Equal-Strength Structures Bending Approaching	94
<i>Khuramov Valery, Kaziev Aslan, Shogenov Akhmed, Balov Azamat</i>	
The Use of Piles with an Adjustable Operation Mode to Restraint the Shaft Sinking Systems' Supporting Structures	100
<i>Prokopov Albert, Prokopova Marina, Medvedev Andrey</i>	
The World Experience Analysis of Ecological Systems in Construction on the High-Rise Air Purification and Filtration Towers Example	106
<i>Nesterova Alisa, Danilovich Yulia</i>	
Theoretical Foundations of the Diagram Method for Calculating Rod Elements Made of Reinforced Concrete	113
<i>Radaykin Oleg</i>	
General Case of Reinforced Concrete Rod Elements Calculation Using the Diagram Method	129
<i>Radaykin Oleg, Sabitov Linar, Akhtyamova Leysan, Arakcheev Timur</i>	
Method for Calculating Strength, Crack Resistance and Stiffness of Reinforced Concrete Beams Reinforced with Steel Fiber Concrete Based on a Nonlinear Deformation Model	140
<i>Radaykin Oleg, Sharafutdinov Linar</i>	
Reconstruction of a Hotel Complex Building Part, Taking into Account the Volumetric Planning Solution Changes	150
<i>Voronkova Galina, Rekunov Sergey, Churakov Alexey</i>	
Numerical-Analytical Calculation of a Cylindrical Reservoir Taking into Account Creep	156
<i>Chepurmenko Anton, Polyakova Tatyana, Rozen Marina, Grigoryan Marina</i>	
Iterative Methods for Solving Nonlinear Dynamic Problems of Construction Mechanics	162
<i>Panasiuk Leonid, Matua Vakhtang</i>	
Scientific and Methodological Support for Tower Structures Creation and Improvement	170
<i>Sabitov Linar, Mayilyan Levon, Timerbaev Nail, Akhtyamova Leysan, Zaripov Marsel</i>	
Simulate the Single-Throw Electric Upcut Shears Operation in Mathcad	181
<i>Drozhdov Anatoly</i>	

Calculation of a Radially Nonhomogeneous Ring Loaded with Normal and Tangential Loads	188
<i>Andreeva Vladimir, Nosyrinb Vladislav</i>	
Trihedral Lattice Towers Geometry Optimization	195
<i>Akhtyamova Leysan, Chepurnenko Anton, Rozen Marina, Al-Wali Ebrahim</i>	
Analysis of the Skeleton Tension Structure as the Load-Bearing Structure of a One-Nave Hall	201
<i>Palacz Przemysław, Major Maciej</i>	
Construction of Plastic Deformation Areas in a Homogeneous Base of Strip Foundation	207
<i>Bogomolova Oksana, Zhidelev Andrey</i>	
The Beams with Composite Reinforcement Inclined Sections' Finite Element Modeling Operation Results Comparison with the Results of the Laboratory Samples' Tests	217
<i>Shilov Alexander, Shilov Petr</i>	
Comparative Analysis of Linear and Non-Linear Free Vibrations of Harmonic Oscillator	224
<i>Kulterbaev Khusen, Vodakhova Valentina, Baragunova Lyalusa, Dadova Marina, Shogenova Mariana</i>	
Investigation of the Dynamic Characteristics of the "building - Pile Foundation" System with the Random Parameters of Foundation Soils	232
<i>Pshenichkina Valeriya, Zhidenko Artyom, Suhina Kseniya, Drozdov Vyacheslav</i>	
Energy Modeling of the DSTU New Campus Business Center Building	239
<i>Vorontsova Olga, Shvets Yulia, Sheina Svetlana</i>	
The Nonclassical Problem of the Compressed Bar Stability	246
<i>Kulterbaev Khusen</i>	
Comparison of the Stress-Strain State Reinforced Concrete Structures (columns and Trusses) with Linear and Nonlinear Statements of the Deformation Law	255
<i>Polyakova Irina, Imambayeva Raykhan</i>	
Improvement of Wind Power Units Towers Constructions and Their Numerical Simulation	265
<i>Sabitov Linar, Mailyan Levon, Akhtyamova Leysan, Ziganshin Almaz, Yazyev Serdar</i>	
Assessment of Spatial Rigidity and Stability of a Building When Replacing Reinforced Concrete Ribbed Plates with Lightweight Coating	272
<i>Babalich Valentin, Sukhina Kseniya, Vilgelm Uriy, Vlasov Vladimir, Sukhin Kirill</i>	
Modern Principles of Strategic Planning for the Central Part Development in Tambov	279
<i>Savinov Yaroslav, Ledenev Victor, AL-Bukhaiti Ali Yahya Nasser, Keita Yaya, Umnova Olga</i>	
To the Question of Action on the Rods Lying on Elastic Foundation, Inertial Load with a Variable Speed of Its Movement	286
<i>Ivanchenko Igor</i>	
Deformation Process Modeling of the Rock Mass with Spherical Cavity Created by Explosion	296
<i>Frolova Irina</i>	
Influence of Long-Term Exposure to Loads on the Annular Sections' Strength and Rigidity	303
<i>Shchutskiy Victor, Blyagoz Alik, Shchutskiy Sergey, Slabukha Svetlana, Kurgin Konstantin</i>	
Optimization of the Steel Frame Elements Sections Formed by I-Beams Diagonal Expansion	311
<i>Schutsky Sergey, Korzhov S.V., Boldyrev A.S.</i>	
Algorithm for Parametric Optimization of a Trapezoidal Wooden Truss on Metal Tooth Plates	319
<i>Zhurtov Artur, Hezhev Tolya, Kardangushev Artur, Nastuyev Muslim, Osmanov Ismail</i>	
General Theory and Foundations for Calculating Reinforced Concrete Structures of Buildings and Structures in Modern Construction	326
<i>Sanjarovskiy Rudolf, Sieber Frieder, Ter-Emmanuilyan Tatyana</i>	
Numerical Methodology for Determining the Soil Mass Surface Slump, Caused by the Tunnel Construction with the Geodetic Monitoring Results Comparison	337
<i>Kositsyn Sergei, Akulich Vladimir</i>	
The Use of Information Technology in the DSTU New Campus Business Center Life Cycle Operational Phase Management	344
<i>Vorontsova Olga, Shvets Yuliya, Sheina Svetlana</i>	
Longitudinal Vibrations of Rods	354
<i>Baragunova Lyalusa, Shogenova Maryana, Kanukoyeva Lyana</i>	
Investigation of the Modular Building Metal Frame Nodal Connection Rotational Stiffness	361
<i>Shirokov Vyacheslav, Veremeenko Oleg, Alpatov Vadim</i>	
The Pipe Material and Improvement State Analysis of Technological Processes for Laying Main Gas Pipelines	370
<i>Pirumyan Narine, Stakyan Migran, Khazaryan Hmayk</i>	
Quantitative Characteristics of Area of Splicing Surfaces of Hot-Deformed Powder Materials	378
<i>Goncharova Tatyana</i>	
Merged Contact Layer in Adhesion Mechanics	383
<i>Tsybin Nikita</i>	

Stress-Strain State of the Short Eccentrically Compressed Reinforced Concrete Columns with Nonlinear Creep	393
<i>Chepurmenko Anton, Dubovitskaya Ludmila, Vanja Vladimir, Tenemaza Ortega Damian Israel, Kuznetsov Andrey</i>	
Calculation of Eccentrically Compressed Reinforced Concrete Columns Under Various Creep Laws	400
<i>Chepurmenko Viacheslav, Rusakova Elizaveta, Bugayan Irina, Vysokovskiy Dmitriy, Babakhina Ludmila</i>	
Development of Modern Design Solutions to Increase the Stone Buildings' Seismic Resistance in the Reconstruction Process	408
<i>Muradyan Viktor, Umarov Artur</i>	
Principles of Preserving the Architectural Heritage on the Example of Architectural and Planning Structure Restoration in Rostov-On-Don After the Great Patriotic War	415
<i>Moskalenko Irina, Sheina Svetlana, Chubarova Karina</i>	
Architectural Form as a Subject of Cultural Communication	424
<i>Dymchenko M., Brykova N., Lokonova I.</i>	
Harmony and Disharmony as the Architectural Appearance Features of the City	431
<i>Mayatskaya Irina, Yazyev Batyr, Yazyeva Svetlana</i>	
Analysis of the Historical and Architectural Environment of Maykop in the Context of Architectural Heritage	439
<i>Subbotin Oleg</i>	
Living Environment Originality in the Historical Center of the Settlement on the Kuban Example	447
<i>Subbotin Oleg</i>	
Construction of a High-Rise Unique Residential Building in the Context of the Old Airport Territory Renovation in Rostov-On-Don	453
<i>Sheina Svetlana, Maximenko Yurii, Danilenko Aleksandr, Belash Vladimir</i>	
Eclecticism of Rationalism in the Pre-Revolutionary Architecture of Civil Public Buildings in the City of Novocheerkassk	464
<i>Lyudmirskaya Alexandra</i>	
Development of the Cultural and Educational Complex "Theatron", Integrated into the Historical Environment of the Youth Theater Building in Kazan	469
<i>Panov Valery, Gladysheva Margarita, Razumov Andrey</i>	
Settlements and Dwellings of Karachais and Balkars	478
<i>Sultanova Aminat, Unezheva Zalina</i>	
Features of the Kabardians' Vernacular Architecture in the 19th - Early 20th Centuries	483
<i>Kanokova Fatima</i>	
"Brick" Rationalism Architecture in the Eclecticism of Religious Buildings, Public Buildings and Industrial Enterprises of the Taganrog City in the Late 19th and Early 20th Centuries	490
<i>Lyudmirskaya Alexandra</i>	
Actual Problems of the Design Documentation Development for Capital Repairs Or Reconstruction of Capital Structural Facilities	495
<i>Muradyan Viktor, Efimenko Ekaterina</i>	
On the Dating of the Three-Parted Temples of Anakopia and Nizhne-Arkhyz Fortified Settlement	504
<i>Pishchulina Victoria, Kishkinova Evgenia</i>	
Cartographic Attribution of Medieval Alan Cities According to Medieval Written Sources and Archaeological Research Materials	511
<i>Treyman Julia</i>	
Configuration of Attractivity in Construction	517
<i>Pershina Irina</i>	
The Problem of Architectural Complexes' Restoration in Modern Conditions	526
<i>Mayatskaya Irina, Yazyeva Svetlana</i>	
Fractal Geometry and Design of Modern Structures	534
<i>Mayatskaya Irina, Kashina Irina, Gerlein Natalia, Yazyev Batyr</i>	
Features of Parking in Megacities	542
<i>Stepanov Mikhail, Skrininkova V.S.</i>	
Methodology for Compiling the Ethnographic Miniature Parks' Exhibits Nomenclature of the Armenian Nation	548
<i>Safaryan A, Safaryan Yuri, Sargsya Ruben</i>	
Architectural Drawing as a Method of Graphic Modeling that Forms the Professional Mentality of a Student-Architect	559
<i>Kupriyanova Elena</i>	
Settlements and Dwellings of Adyghe People	568
<i>Unezheva Zalina, Sultanova Aminat</i>	

The Role of Soviet Modernism Objects in the Formation of Rostov-On-Don Silhouette Along the Don River Embankment	575
<i>Ivanova-Ilyicheva Anna, Sidorenko Nadezhda</i>	
Industrial Construction of the Late XIX-Early XX Centuries: Barracks for Workers of the Moscow Region Manufactories	581
<i>Shamaeva Tatyana</i>	
Reconstruction with Using a Comprehensive Assessment	590
<i>Perkova M.V., Chechel I.N., Dubino A.M., Chechel I.P.</i>	
The Problem of Form in Modern Architecture	597
<i>Dymchenko I.A., Dakoro I.F., Dadiyan D.G.</i>	
Chronology of the Nizhne-Arkhyz Fortified Settlement Development According to Historical, Bibliographic and Archival Sources	604
<i>Treyman Julia</i>	
New Chronology of Medieval Objects in the Northern Black Sea Region According to the Method of Determining Calcite Main Peak Intensity	611
<i>Pishchulina Victoria, Kotlyar Vladimir</i>	
Methods of Mathematical Modeling and Urban Space Organization	623
<i>Mayatskaya Irina, Yazyev Batyr</i>	
Comparative Analysis of Environmentally Friendly Materials	631
<i>Girya Lidiya, Vinogradova Elena, Gondusova Alina, Muradov Telman, Horoshilov Aleksey</i>	
Improving the Reliability of the Designed Pipeline Facilities by Improving Acoustic Diagnostics of Microdefects	638
<i>Arshinov Georgy</i>	

DQQM2

Thermal Performance Ensuring for Enclosing Structures	648
<i>Egorochkina Inna, Serebryanaya Irina, Shlyakhova Elena, Buzanova Alena, Bakaev Zaurbek</i>	
Prospects for the Use of Modern Resource-Saving Technologies in Construction and Assessment of Their Use Effectiveness on Transparent Insulation in the Walls of Buildings	656
<i>Sekisov Aleksandr, Kvetenadze Konstantin, Babich Anna, Fenina Elina, Shabanov Rustam</i>	
Digitalization of the Construction Products' Manufacturing Process as a Guarantee of the Finished Products Quality	662
<i>Romanenko Elena, Kim Valeria, Sandul Alexey</i>	
Energy Efficient Thermal Insulation Materials for External Building Walls	668
<i>Bzhakhov Muzarib, Battaev Shamil, Nastuyeva Malika</i>	
Additive Manufacturing of Concrete Wall Structures	677
<i>Karpova Ekaterina, Skripkiunas Gintautas, Sedova Anastasiia, Tsimbalyuk Yelyzaveta</i>	
Practical Quality Monitoring of Bituminous Binders Used at Federal Highways Construction	686
<i>Chernov Sergey, Eremenko Evgeny, Shiryaev Nikita</i>	
Physical Foundations of Variatropia Recipe Regulation and Control of Concrete Properties with Centrifugal Seal	691
<i>Mailyan Levon, Stel'makh Sergei, Shcherban Evgenii, Smolyanichenko Alla, Demidova Alina</i>	
Composition of Molding Material for Ceramic Tiles	699
<i>Adamyan Vladimir, Kalashnikova Svetlana, Burlakova Victoria, Seferyan Luiza, Sergeeva Galina</i>	
Methods for Cleaning Soil from Benzopyrene in the Territory Allocated for Construction	704
<i>Uzhakhov Karkhan, Ulbieva Irina, Uzhakhov Magomed, Tsechoeva Aminat, Dzangieva Ashat</i>	
Thermal Insulation of the Tent's Heat Shield in Cold and Hot Climates	711
<i>Ujma Adam, Jura Jakob</i>	
Investigation of the SHS Process Initiation in the Base Mixture During HFC Heating and the Dependence of the Combustion Rate on Various Factors	717
<i>Malikov Vladimir, Ishkov Alexey</i>	
Improving the Strength and Resistance of Cement Composites to the External Environment by Utilizing Complex Additives	727
<i>Fedortsov Anatoly, Fedortsov Vladislav, Ashchepkov M.V., Rusakov K.V., Gladkin Sergey, Erofeev Vladimir</i>	
Regression Assessment of the Model Based on the Experimental Planning Matrix in Composite Materials' Analysis Problems	737
<i>Balatkhanova Elita, Erofeeva Irina, Afonin Victor</i>	
Information Model for Choosing a Design Solution for Providing Construction with Mortar	745
<i>Kabanov Vadim</i>	

Hybrid Finite Element Formulation for Geometrically Nonlinear Buckling Analysis of Truss with Initial Length Imperfection	752
<i>Quyên Vu Thi Bích, Tien Dao Ngoc</i>	
Development of a Mathematical Apparatus for State Estimation of an Integrated Safety System for an Artificial Traffic Installation	758
<i>Ginzburg Alexander, Kozminykh Sergey</i>	
Method for Determining the Transmission of a Garret Window from a Direct Sun Component	775
<i>Guketlov Khazret, Tatarov Islam</i>	
Geoinformation Support of the Program “Integrated Development of Rural Areas”	781
<i>Sheina Svetlana, Fedorovskaya Albina, Chubarova Karina</i>	
To the Question of the Building Information Modeling Technologies Transition to a New Development Level	789
<i>Shilov Leonid, Shilova Liubov</i>	
A Lifecycle Management System for Capital Construction Facilities Based on a Digital Cloud Platform Implementing Information Modeling Methods and Technologies	798
<i>Zheleznov Maxim</i>	
The Use of Generative Design for the Architectural Solutions Synthesis in the Typical Construction of Residential Buildings	803
<i>Smorzhenkov Nikita, Ignatova Elena</i>	
Usability Engineering of an Information Model Simulating Emergency Scenarios at Construction Facilities	812
<i>Mokhov Andrey, Demin Evgenii, Doroshenko Anna</i>	
Development of the Information Modeling (BIM) Conceptusing Big Data Technologies for the Implementation of the Life Cycle Management System for Capital Construction of Transport Infrastructure	819
<i>Zheleznov Maxim</i>	
Information Technologies for Solving Urban Construction Problems	825
<i>Serova Elena</i>	
Optimization of the Engineering Surveys Geodetic Coordinate Frame Based on the Mercator Projection Use	832
<i>Son Tran Thanh</i>	
Heat Pump System Built into the Room with the Implementation of Air Exchange and Microclimate	838
<i>Fedosov Sergey, Fedoseev Vadim, Elin Nikolay, Voronov Vladimir, Loginova Svetlana</i>	
In-Site Transportation of Concrete Mix: New Typology of Methods, Potential and Fields of Modern Mechanization Means’ Rational Application	846
<i>Osmanov Sergey</i>	
Organizational and Technological Aspects of a Forensic Construction and Technical Expertise	855
<i>Zilberova Inna, Mailyan Vadim, Novoselova Irina</i>	
Organizational and Technological Features of the Modern Building Systems’ Development	860
<i>Zilberova Inna, Petrov Konstantin, Novoselova Irina, Mokhsen Al Fatla Abdullah Neama</i>	
Game as a Scientific and Methodological Basis of Modern Geodetic Education	865
<i>Dudnik Anastasia, Tupoleva Galina</i>	
Methodical Approaches to Destructive and Non-Destructive Testing Application in Forensic Construction and Technical Expertise	871
<i>Zilberova Inna, Novoselova Irina, AL-Fatla Tareq Neamah Mohsen, Petrov Konstantin</i>	
Creation of Digital Terrain Models Using Software Applications	876
<i>Germak Oksana, Gugueva Oksana, Kalacheva Natalya</i>	
Combination of Engineering, Technical and Design Solutions on the Example of the Renewable Energy Sources Placement on the Building Envelope	884
<i>Galkina Natalia, Govorunov Maksim, Muro Genrikh, Khalezin Sergey</i>	
Schemes Analysis of Solar Plants with Automatic Regulation	892
<i>Galkina Natalia, Tikhomirov Alexey, Govorunov Maxim</i>	
Developing a New Method of Calculating Heat and Humidity Air Treatment by Water in Irrigation Chamber	900
<i>Egnatosyan Siranush, Egnatosyan Naira</i>	
Problems of Achieving Energy Efficiency in Residential Low-Rise Housing Construction Within the Framework of the Resource-Saving Technologies Use	907
<i>Sekisov Aleksandr</i>	
System Management Technology for Technical Maintenance of Transport and Technological Machines	915
<i>Voronin Vladimir</i>	

Investigation of the Steel Parts' Hardsurfacing Overlays Properties	922
<i>Malikov Vladimir, Ishkov Alexey</i>	
Computer Modeling Influence Lines of the Bridge Crane Rods Load Truss in Mathcad System	931
<i>Kudryavcev Evgenij, Gavrilenko Aleksandr, Djafari Mostafa</i>	
Ultra-Miniature Eddy-Current Converter for Small Defects of Deep Occurrence Search in the Area of High-Yield-Stress Steels Weld Joints	938
<i>Malikov Vladimir, Ishkov Alexey</i>	
Formation of a Methodology for Managing the Strategic Stability of Transport Enterprises	946
<i>Grigoreva Svetlana</i>	
Modeling of Accident Rates Involving Trucks in Order to Improve Road Safety in the Russian Federation	952
<i>Ilina I.E.</i>	
The Relationship Between the Production and Construction Sector and Continuous Professional Training	958
<i>Pesotskaya Elena, Selyutina Larisa, Ivanova Maria, Egorova Olga</i>	
On the Development of Methods for Assessing Project Financing Risks	964
<i>Voronina Natalia, Steksova Svetlana</i>	
Competitiveness of Trade Enterprises in Building and Finishing Materials' Market in Pandemic Conditions	970
<i>Kovalenkova Olga, Khlopenko Oksana</i>	
Assessment of the Innovation Ecosystem Reproductive Potential	977
<i>Ivanova Oksana, Belikova Svetlana</i>	
Business Processes Engineering for Organizing the Construction Objects' Design	986
<i>Fil Olga</i>	
"Smart City" Concept in the Urban Economy Digitalization System of St. Petersburg	994
<i>Geraskina Inna, Kopyrin Alexey</i>	
Evolution of Risk Assessment Methods and the Possibility of Their Use in Determining the Investment and Construction Projects' Effectiveness	1001
<i>Kazaku Ekaterina, Zvereva Elena, Tsarionova Julia</i>	
Methodological Approaches to Assessing the Technical and Economic Efficiency of the Building Materials and Structures' Use	1008
<i>Akulova Inna, Slavcheva Galina, Simonov Dmitry</i>	
Social Bonds as a Tool for Financing Concession Projects in the Housing and Communal Services Sector in Rostov Oblast, Russia	1013
<i>Sidorenko Elena</i>	
Using Public-Private Partnerships to Improve the Efficiency of Housing and Communal Services	1021
<i>Yekimov Sergey, Nianko Viktoriia</i>	
Concession Use to Improve the Housing and Communal Services Efficiency	1026
<i>Yekimov Sergey, Nianko Viktoriia</i>	
The Road Infrastructure Development Impact on the Economy of the Region	1031
<i>Lykova Îlesia</i>	
Features of the State Pricing System in Construction in the Russian Federation	1039
<i>Ivanova Oksana, Ivanova Daria, Sukhinin Sergey</i>	
Prerequisites for the Creation of Building Materials Unified Information Base as a Tool for the Construction Products' Actual Cost Formation	1045
<i>Zvereva Elena, Nemchaninova Maria, Tsarionova Yulia</i>	
Problems of Pricing in the Field of Maintenance and Operation of Urban Areas and the Ways to Solve Them on the Example of the Sochi City	1052
<i>Sekisov Aleksandr, Kovtunenkov Marina, Fokina Irina, Zakaryan Ishkhan, Pastukhov Sergei</i>	
Analysis of the Influence of Sustainable Development Factors on the State of the Housing Function in a Large City	1059
<i>Seferyan Luiza, Magomedov Bagavdin, Shuaipova Pari, Nikulina Marina, Shevtsova Anna</i>	
Study of the Ardon Deep Fault Spatial Position Using High-Precision Gravity and Magnetic Measurements	1066
<i>Zaalishvili Vladislav, Kanukov Aleksandr, Persaeva Zarina, Shmanatov Georgi</i>	
Integrated Simulation of Bio Positive Environment in a Large City Through the Reconstruction of Its Recreational Areas	1073
<i>Paramonova Oksana, Lysova Ekaterina, Yudina Natalya</i>	
Theoretical Justification and Development of Technical Means to Ensure Environmental Safety of Urban Water Management Systems	1079
<i>Khetsuriani Elguja, Bondarenko Vladimir, Khetsuriani Teona, Khetsuriani Timur</i>	

Environmentally Friendly Biopositive Design Protection of Water Intake Facilities' Urban Water Management Systems	1088
<i>Khetsuriani Elguja, Bondarenko Vladimir, Khetsuriani Teona, Khetsuriani Timur</i>	
Environmental Safety Assessment in the Influence Zone of the Existing Zelenchukskaya HPP-PSHS and Krasnogorsk HPP-1, HPP-2 Under Construction in the Area of Ust-Dzhegutinsky Reservoir Location	1099
<i>Bondarenko Vladimir, Ylyasov Alla-Breidi, Mirzoev M., Shtavdaker Maria</i>	
A Systematic Approach to the Assessment of the Water Facility Influence Zones Ecological State as a Factor of Environmental Safety	1110
<i>Bondarenko Vladimir, Ylyasov Alla-Breidi, Semenova Elena, Shtavdaker Maria</i>	
Methodological Foundations of the Philosophical Content of the System Concepts "ecological State" and "ecological Safety" in the Use of Water Resources	1117
<i>Bondarenko Vladimir, Ylyasov Alla-Breidi, Semenova Elena, Bandurin Vitalii, Shtavdaker Maria</i>	
Engineering Solution, Increasing the Environmental Safety of Water Industry Enterprises	1123
<i>Yuriev Yuri, Katerinin Konstantin, Konovalov Oleg, Shchitov Dmitry, Sidyakin Pavel</i>	
Development of a Method for Reducing Corrosion Processes Activity at Water Consuming Facilities	1128
<i>Moskvicheva Elena, Timofeev Anton, Kotovchikhina Elena, Batmanov Viktor, Nesterchuk Alexandra</i>	
Prospects for the Use of Multipurpose Engineering Devices for Wastewater Treatment at Industrial Enterprises	1133
<i>Ignatkina Darya, Geraschenko Alla, Vlasova Oksana, Telyatnikova Victoria</i>	
On the Issue of Disposal of Waste Sorption Material as an Additive in New Products' Manufacturing	1143
<i>Ignatkina Darya, Telyatnikova Victoria, Meshcheryakova Yaroslava, Gizzatova Gulnara</i>	
Solutions to Reduce Dust Emissions Mass into Urban Air in Aerated Concrete Production	1149
<i>Kondratenko Tatiana</i>	
Information Technologies for the Study of the Planned and Profile Model of the Flux Creep in the Transit Channel	1154
<i>Khetsuriani Elguja, Khetsuriani Teona, Khetsuriani Timur</i>	
Formation and Treatment Features of Oil-Fields Waste Water	1161
<i>Alekseev Evgeny</i>	
Anthropogenic Landslide Geodetic Monitoring	1166
<i>Zaalishvili Vladislav, Melkov Dmitry</i>	
Fundamentals of the Philosophical Content Methodology on the Creation and Development of a Class of Natural and Technical Systems in Water Management Construction	1174
<i>Bondarenko Vladimir, Ylyasov Alla-Breidi, Semenova Elena, Shtavdaker Maria</i>	
Environmental Efficiency Investigation of a Gas Turbine Unit	1185
<i>Legkii Alexander, Karapuzova Natalya, Kudashev Alexei, Zlobin Vladimir, Vlasova Oksana</i>	
High-Altitude Dynamics of Snow Load Values on the Mount Elbrus Slopes	1190
<i>Adzhiev Anatoly, Bekkiev Mukhtar, Kondratieva Natalia, Yurchenko Natalia, Kubadieva Leila</i>	
Studies to Reduce Biofouling on Metal Surfaces of Abstraction Intakes	1198
<i>Moskvicheva Anastasia, Fedulova Ekaterina, Gilgenberg Alexandra, Konovalov Oleg, Gizzatova Gulnara</i>	
Theoretical and Practical Aspects of the Waste Water Electrochemical Purification Method's Applicability	1203
<i>Ignatkina Darya, Shevtsova Irina, Telyatnikova Victoria, Kotlomina Daria</i>	
Investigation of the Process of Reducing Air Pollution When Crushing Gravel	1211
<i>Samarskaya Natalia, Gurova Oksana</i>	
Local Experimental Studies of the Fertilizer Uptake Process into Suction Pipelines of Pumping Stations with a Jet Apparatus	1217
<i>Taraslyants Sergey, Panov Vladislav, Urzhumova Yulia, Rudakov Vladimir</i>	
Assessment of Environmental Safety in the Influence Zone of the Current Zelenchukskaya HPP-PSPP and Krasnogorsk HPP-1, HPP-2 Under Construction in the Area of Ust-Dzhegutinsky Reservoir Location	1229
<i>Bondarenko Vladimir, Ylyasov Alla-Breidi, Semenova Elena, Mirzoev Marat, Shtavdaker Maria</i>	
Comprehensive Assessment of the Dust Environment at the Construction Industry Enterprises	1238
<i>Meskhii Besarion, Evtushenko Aleksandr, Azarov Valeriy, Zhukova Natalia</i>	
On the Assessment of the Dust-Air Masses Distribution Regularity in the Workshops of the Reinforced Concrete Products' Manufacturing	1243
<i>Evtushenko Aleksandr, Startseva Yulia, Khoperskov Aleksandr, Azarov Valeriy</i>	
Comprehensive Improvement of Energy Efficiency and Environmental Friendliness of a Solid Fuel Boiler House	1250
<i>Kondratev Roman</i>	
Study of a Gas Turbine Unit Energy Efficiency	1257
<i>Legkii Alexandr, Stefanenko Igor, Kudashev Alexey, Zlobin Vladimir, Ermilova Natalia</i>	

Analysis of Current Conversion Primary Sensors Dynamic Characteristics of a Reactive Power Source with Renewable Energy Sources into Secondary Voltage	1265
<i>Siddikov Lkhomzhon, Abubakirov Azizjan, Seytimbetov R., Kumatova Sh., Lezhnina Yuliya</i>	
Development of Urban Infrastructure Socially Significant Elements Classification for Ensuring Their Autonomy	1272
<i>Shilova Liubov</i>	
Integrated Monitoring of Slope Processes in North Ossetia	1280
<i>Zaalishvili V.B., Melkov D.A, Dobrev N.D., Kanukov A.S.</i>	
Allocation of Zones with Different Responses of Ground Movement Individual Indicators to Standard Seismic Impact	1286
<i>Zaalishvili Vladislav</i>	
Soils' Classification According to Their Seismic Properties in Building Codes of Various Countries	1293
<i>Zaalishvili Vladislav</i>	
Author Index	