

International Conference “Transport and Storage of Hydrocarbons”

IOP Conference Series: Materials Science and Engineering
Volume 357

Tyumen, Russia
10 – 12 January 2018

ISBN: 978-1-5108-6313-2
ISSN: 1757-8981

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.

Copyright© (2018) by the Institute of Physics
All rights reserved. The material featured in this book is subject to
IOP copyright protection, unless otherwise indicated.

Printed by Curran Associates, Inc. (2018)

For permission requests, please contact the Institute of Physics
at the address below.

Institute of Physics
Dirac House, Temple Back
Bristol BS1 6BE UK

Phone: 44 1 17 929 7481
Fax: 44 1 17 920 0979

techtracking@iop.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

Volume 357

International Conference "Transport and Storage of Hydrocarbons"

10–12 January 2018, Tyumen, Russian Federation

Accepted papers received: 20 April 2018

Published online: 18 May 2018

Preface

[International Conference "Transport and Storage of Hydrocarbons"](#)

[Peer review statement](#)

Papers

[Noospheric ecological imperative in culture of technocratic society](#)

V D Shantaran, N A Bezzubtseva and Yu D Zemenkov0003

[Gas hydrate suspensions formation and transportation research](#)

A N Gulkov, S Gulkova, Yu D Zemenkov and V D Lapshin0009

[Reduction of movement resistance force of pipeline in horizontal curved well at stage of designing underground passage](#)

V S Toropov and S Yu Toropov00035

[Determination of relative phase permeabilities in stochastic model of pore channel distribution by diameter](#)

M Y Zemenkova, A Shabarov, A Shatalov and L Puldas00042

[Study of method for reducing fuel consumption and amount of specific emissions of harmful substances with exhaust gases of passenger cars when using "climate control" system](#)

L N Burakova, I A Anisimov, A D Burakova and O D Burakova00048

[Practical calibration of design data to technical capabilities of horizontal directional drilling rig](#)

S Yu Toropov and V S Toropov00057

[Physical and mathematical modeling of process of frozen ground thawing under hot tank](#)

M Y Zemenkova, U Shastunova, A Shabarov, A Kislitsyn and A Shuvaev00064

[Study of influence of various factors on electrochemical signal of lead in water solutions](#)

Yu N Zhikharev, L I Andrianova and E V Ogudova0006;

[Innovations in education and approaches to assessment of regional educational systems](#)

V I Bauer, V D Iljinyh, A V Bazanov and E S Kozin00078

[Destruction of linear part of pipeline under influence of highfrequency pressure change](#)

K S Voronin and D A Cherentsov00084

[Thermal interaction of underground pipeline with freezing heaving soil](#)

S Y Podorozhnikov, P Mikhailov, L Puldas and A Shabarov00089

[Viability of using different types of main oil pipelines pump drives](#)

A G Zakirzakov, Yu D Zemenkov and K A Akulov00096

[Snow as building material for construction of technological along-the-route roads of main pipelines](#)

S M Merdanov, A L Egorov, V A Kostyrchenko and T M Madyarov0000 2

[Optimization of geometric parameters of heat exchange pipes pin finning](#)

K A Akulov, V V Golik, K S Voronin and A G Zakirzakov(0000) ;

[Features of realization of life cycle of commercial vehicles in western Siberia](#)

E G Ishkina(0000) 8

[Methods of increasing efficiency and maintainability of pipeline systems](#)

V A Ivanov, S M Sokolov and E V Ogudova(0000) 26

[Force of resistance to pipeline pulling in plane and volumetrically curved wells](#)

V S Toropov, S Yu Toropov and E S Toropov(0000) 2;

[Dependence of energy characteristics of ascending swirling air flow on velocity of vertical blowing](#)

R E Volkov, A G Obukhov and V N Kutrunov(0000) 37

[Normalization of hydrocarbon emissions in Germany](#)

R E Levitin(0000) 43

[Effect of elemental composition on structure and corrosion resistance of electrolytic iron-based alloys](#)

E V Koreshkova and A A Kulemina(0000) 49

[Ballasting pipeline moving in horizontal well as method of control sticking phenomenon](#)

V S Toropov and E S Toropov(0000) 56

[Development of layout algorithm for pipeline, considering topographic features](#)

P V Grigorieva, K S Voronin and D A Cherentsov(0000) 63

[Swirl-chamber experimental model creation](#)

A M Kulikov000368

[Thermodynamic properties of gas-condensate system with abnormally high content of heavy hydrocarbons](#)

S A Zanochev, A B Shabarov, S Yu Podorozhnikov and A A Zakharov000373

[Influence of surfactants on gas-hydrate formation' kinetics in water-oil emulsion](#)

Yu D Zemenkov, A V Shirshova, E A Arinstein and A N Shuvaev00037:

[Power law of distribution of emergency situations on main gas pipeline](#)

K S Voronin and K A Akulov000387

[Complex solution of problem of all-season construction of roads and pipelines on universal composite pontoon units](#)

A V Ryabkov, N A Stafeeva, V A Ivanov and A F Zakuraev000392

[Technologies of polytechnic education in global benchmark higher education institutions](#)

V A Kurushina, E V Kurushina and M Y Zemenkova000399

[Selection of optimal conditions for preparation of emulsified fuel fluids](#)

V A Ivanov, V I Berg and M D Frolov0003: 6

[Oscillations of manometric tubular springs with rigid end](#)

D A Cherentsov, S P Pirogov, S M Dorofeev and Y S Ryabova0003: :

[Methodology for reducing energy and resource costs in construction of trenchless crossover of pipelines](#)

V S Toropov0003; 5

[Effect of section shape on frequencies of natural oscillations of tubular springs](#)

S P Pirogov, A Yu Chuba and D A Cherentsov0000422

[Analysis and optimization of indicators of energy and resource consumption of gas turbine and electric drives for transportation of hydrocarbons](#)

V V Golik, M Yu Zemenkova, I V Seroshtanov and Z V Begalko0000427

[Monitoring of energy efficiency of technological modes of gas transport using modern gas-turbine equipment](#)

V V Golik, M Yu Zemenkova, A N Shipovalov and K A Akulov0000435

[Experimental studies of thermal preparation of internal combustion engine](#)

N N Karnaukhov, Sh M Merdanov, Konev V V and D M Borodin0000443

[On issue of substantiating availability of main pipelines in Western Siberia](#)

B P Elkin and V A Ivanov0000452

[Mathematical Model of Stress-Strain State of Curved Tube of Non-Circular Cross-Section with Account of Technological Wall Thickness Variation](#)

S P Pirogov, N N Ustinov and N I Smolin0000457

[Study of torsion oscillations of pumping unit shafts](#)

V M Loginovskikh, D A Cherentsov, K S Voronin and S P Pirogov0000464

[Modeling flows of heterogeneous media in pipelines when substantiating operating conditions of hydrocarbon field transportation systems](#)

S M Dudin and D V Novitskiy0000468

[Numerical simulation of fire vortex](#)

D D Barannikova, V E Borzykh and A.G. Obukhov000474

[Study of a method for reducing fuel consumption and the amount of specific emissions of harmful substances with exhaust gases of passenger cars when using the "climate control" system](#)

L N Burakova, I A Anisimov, A D Burakova and O D Burakova00047:

[Analysis of technical university information system](#)

N A Savelyev and M A Boyarkin000489

[Formation flow rate control method in multi-layer production](#)

H N Muzipov, R K Akhmadulin and L N Bakanovskaya000495