

National University of Civil Defence of Ukraine

Problems of Emergency Situations

Selected peer-reviewed full text
papers from the International Scientific Applied
Conference "Problems of Emergency Situations"
(PES 2023)

Selected peer-reviewed full text papers from the
International Scientific Applied Conference
"Problems of Emergency Situations" (PES 2023),
May 19, 2023, Kharkiv, Ukraine

Edited by

**Alexey Vasilchenko, Andrii Kondratiev, Andrii Kovalov,
Evgeniy Rybka, Konstantinos Sotiriadis, Nataliia Mahas,
Mykola Surianinov, Volodimir Trigub, Nina Rashkevich,
Volodymyr Semko, Volodymyr Andronov
and Yurii Otrosh**



Copyright © 2023 Trans Tech Publications Ltd, Switzerland

All rights reserved. No part of the contents of this publication may be reproduced or transmitted in any form or by any means without the written permission of the publisher.

Trans Tech Publications Ltd
Seestrasse 24c
CH-8806 Baech
Switzerland
<https://www.scientific.net>

Volume 9 of
Construction Technologies and Architecture
ISSN print 2674-1229
ISSN web 2674-1237

Full text available online at <http://www.scientific.net>

Distributed worldwide by
Trans Tech Publications Ltd
Seestrasse 24c
CH-8806 Baech
Switzerland
Phone: +41 (44) 922 10 22
e-mail: sales@scientific.net

Printed with permission by
Curran Associates Inc. (2024)

CURRAN ASSOCIATES INC.
proceedings
.com

Additional copies of this
publication are available from:

Web: www.proceedings.com/74335.html

Table of Contents

Preface	v
Chapter 1: Structural Mechanics	
Axisymmetric Bending of Circular Plates on a Variable Elastic Base	
M. Surianinov, Y. Krutii, O. Klymenko, V. Vakulenka and S. Rudakov	3
Coupling of the Cylindrical Shell with Side Elements	
M. Surianinov, S. Neutov, Y. Burdeinii and V. Metlizkiy	11
Experimental Studies of a Long Cylindrical Shell	
M. Surianinov, S. Neutov, I. Korneeva, D. Kirichenko and Y. Danchenko	21
Chapter 2: Accidents Control and Prevention of Buildings and Structures	
Subsidence of Existing Buildings from the Impact of New Construction	
Y. Vynnykov, M. Kharchenko, D. Yermolenko and M. Akopian.....	29
Comparison of Settlements of Buildings on Soil-Cement Soil Bases Determined	
Analytically and by Long-Term Geodetic Observations	
Y. Vynnykov and R. Razdui	39
Assessing the Risk of Material Damage of Building Construction of High-Rise	
Rooms Due to Fires and Emergencies	
R. Koval, S. Yemelyanenko, A. Kuzyk and Y. Starodub	49
Method of Identification of Mechanical Characteristics of Concrete of Reinforced	
Concrete Crossbars according to the Results of Fire Tests	
S. Pozdieiev, O. Nekora, S. Fedchenko and T. Shnal.....	59
Chapter 3: Protective Engineering Structures and Prevention of Technogenic	
Accidents	
The Bunker - Like a Structure for Storing the Life of the Civilian Population in	
Conditions of Danger	
A. Perperi, A. Perperi, D. Surianinova and V. Otrosh	69
Crisis Prevention Methods Based on Operational Risk Management: Railway	
Transport Case Study	
V. Samsonkin, O. Yurchenko, V. Myronenko and J. Bulgakova	77
Keyword Index	85
Author Index	87