

Table of Contents

Preface

Chapter 1: Structural Engineering

Bond Slip Behavior for CFRP-to-Concrete Joints at Room Temperature A. Salameh, R. Hawileh, M. Assad and J.A. Abdallah	3
Numerical Investigation on Improving Shear Strength of RC Beams with Various Web Opening Shapes Using Pre-Stressed Fe-SMA Bars A.M. Khalil, M. Elkafrawy, R. Hawileh and M. Al-Hamaydeh	13
The Strength and Flexural Buckling Resistance of Steel Cylindrical Silos Shells A. Makhinko, N. Makhinko, O. Vorontsov and O. Kordun	23
Slope Stability Assessment of Tailings Dam O. Radchuk	37
Research of the Features of Stress-Corrosion Destruction of Gas Pipelines V. Makarenko, V. Gots, O. Berdnyk, N. Amelina and E. Tishchenko	49
Bending and Shear Response of Perturbated Honeycomb Lattices O. Al-Osman, M. Alkhader and W. Abuzaid	63
Determination of the Required Area of Easily Removable Structures to Protect against Progressive Collapse R. Maiboroda, M. Zhuravskij, Y. Otrosh and V. Karpuntsov	73
Tube Sheet Ligament Thickness Selection and Stress Analysis during Tube Expansion O. Shapoval, R. Vakulenko, V.D. Kulynych and I.V. Savchenko	85

Chapter 2: Development of Measuring Systems

Development of an Electrochemical Biosensor Using Magnetite Nanoparticles P. Thonglor, S. Sonsupup, T. Sinprachim and N. Albutt	95
Development of an Open-Source Software Tool for Microstructure Analysis of Materials Using Artificial Intelligence G.K. Pham, K. Yalcin, A.W.A.N. Binti Wan, A.S. Nguyen and V.T. Trinh	103
Design and Manufacture an Instrument Used to Estimate the Sun's Ultraviolet Radiation T.T.A. Dao, N.M.T. Thao and H.V. Tri	111
Application of 3D Simulation Techniques and Tecnomatix Software in Balancing the Sewing Lines in the Garment Industry P.T. Thao, P.T.Q. Trang and T.D. Vu	117