

CONTENTS

Mathematics

- Algazin O.D.** Exact Solution to the Dirichlet Problem for Degenerating on the Boundary Elliptic Equation of Tricomi — Keldysh Type in the Half-Space 4

Mechanics

- Fedorov S.V., Babkin A.V., Veldanov V.A., Gladkov N.A., Ladov S.V.** High-Velocity Penetration of Porous Material Rods 18

- Surzhikov S.T.** Aerophysics of the Hypersonic Air Flow above Surface of Space Vehicle at Altitudes of less than 60 km 33

- Sulimov V.D., Shkapov P.M., Sulimov A.V.** Optimization of Singular Values of Parameter Dependent Matrices using Hybrid Algorithms 46

Physics

- Zarubin V.S., Kuvyrkin G.N., Savel'eva I.Yu.** Comparative Analysis for Thermal Conductivity Estimates of Unidirectional Fiber Composites 67

- Fomin I.V.** Optical Effects in the Atmosphere of Astrophysical Objects 84

- Kirillov A.A., Savelova E.P.** The Distortion of CMB Spectrum Radiation due to Scattering by Wormholes 96

- Gorelik V.S., Yashin M.M.** Narrow-Band Filters in the Visible Spectral Range Based on Porous Photonic Crystal 105

Chemical Sciences

- Romanko O.I.** Production of Chemisorption Polymers and their Thermal Properties 115

- Yurasova I.I., Yurasov N.I., Sulegin D.A.** Study of Potassium Dichromate-Catalyzed Hydrogen Peroxide Decomposition 125

Informatics, Computer Engineering and Control

- Govor S.A., Katkov O.N.** The Study of Air-Cushioned Aircraft Landing Gear Demonstrator using Design of Experiments Algorithm 136