Contents

Vol. 25, No. 1, 2022

Structure Formation in Vanadium-Alloyed Chromium-Manganese Steel with a High Concentration of Interstitial Atoms C + N = 1.9 wt % during Electron-Beam Additive Manufacturing
E. G. Astafurova, S. V. Astafurov, K. A. Reunova, E. V. Melnikov, V. A. Moskvina, M. Yu. Panchenko, G. G. Maier, V. E. Rubtsov, and E. A. Kolubaev 1

Features of Solid Particle Erosion of Metals
A. D. Evstifeev and I. V. Smirnov 12

Structure and Properties of Ag-Ni-N Coating Formed on Copper by Electroexplosive Spraying Combined with Pulsed Electron Beam Irradiation and Nitriding
Yu. F. Ivanov, V. V. Pochetukha, D. A. Romanov, and V. E. Gromov 18

Dynamic Strength of VT6 Titanium Alloy Manufactured by Laser Metal Deposition
S. V. Razorenov, G. V. Garkushin, A. S. Savinykh, O. G. Klimova-Korsmik, S. A. Shalnova, and M. O. Gushchina 26

Three-Dimensional Model of a Structured Linearly Elastic Body
A. F. Revuzhenko 33

Surface Effects and Small-Scale Impacts on the Bending and Buckling of Nanowires Using Various Nonlocal HSDTs
A. Lounis, D. O. Youcef, A. A. Bousahla, F. Bourada, A. Kaci, H. Heireche, Abdeldjebbar Tounsi, K. H. Benrahou, Abdelouahed Tounsi, and M. Hussain 42

Application of Physical Modeling with the Use of Soft Model Materials for the Analysis and Optimization of Metal Extrusion Processes
M. Hawryluk, M. Suliga, and M. Więcław 57

Mathematical Model of Brittle Fracture of a Cracked Part
S. A. Sokolov and D. E. Tulin 72

Change in Texture-Dependent Acoustic Birefringence in α-Fe and γ-Fe Polycrystalline Aggregates due to Plastic Deformation
K. V. Kurashkin, V. V. Mishakin, S. V. Kirikov, A. V. Gonchar, and V. A. Klyushnikov 80

Synthesis, Corrosion, and Bioactivity Evaluation of the Hybrid Anodized Polycaprolactone Fumarate/Silicon- and Magnesium-Codoped Fluorapatite Nanocomposite Coating on AZ31 Magnesium Alloy
K. Mohemi, T. Ahmadi, A. Jafarzadeh, H. R. Bakhsheshi-Rad, M. Taghian Dehaghani, and F. Berto 85

Analysis of Rock Fracture from Time-Variant Structural Parameters
V. T. Belikov and D. G. Ryvkin 97