

CONTENTS

Geology	5
E. D. Kuzmenko, I. V. Chepurnyi, T. B. Chepurna, S. M. Bagriy. Subsidence and failures within the territory of Precarpathian salt fields and the possibility of their prediction	5
Ya. O. Liashok, O. I. Serhienko, V. M. Kutserubov, O. P. Kohtieva, L. V. Serhienko. The influence of the moisture on the physical and mechanical properties of the sandstone (Separate Unit “Kapitalna” coal mine”, Donbas)	11
Mining	17
N. A. Nemova, D. Tahanov, B. Hussan, A. Zhumabekova. Technological solutions development for mining adjacent rock mass and pit reserves taking into account geomechanical assessment of the deposit	17
M. Fredj, A. Hafsaoui, H. Riheb, R. Boukarm, A. Saadoun. Back-analysis study on slope instability in an open pit mine (Algeria)	24
Solid State Physics, Mineral Processing	30
V. S. Morkun, N. V. Morkun, V. V. Tron, T. S. Sulyma. Synthesizing models of nonlinear dynamic objects in concentration on the basis of Volterra-Laguerre structures	30
L. I. Solonenko, O. P. Bilyi, S. I. Repiakh, T. V. Kimstach, K. I. Uzlov. Heating rate of granular inorganic materials by microwave radiation	37
I. V. Novitskiy, V. V. Sliesarev, A. V. Maliienko. Method of identification of nonlinear dynamic control objects of preparatory processes before ore dressing	42
V. V. Sobolev, V. V. Kulivar, O. L. Kyrychenko, A. V. Kurliak, O. O. Balakin. Evaluation of blast wave parameters within the near-explosion zone in the process of rock breaking with borehole charges	47
Geotechnical and Mining Mechanical Engineering, Machine Building	53
V. V. Kalchenko, A. M. Yeroshenko, S. V. Boyko, P. L. Ignatenko. Development and research of thermoplastic methods for hardening details	53
Ya. B. Nemyrovskiy, V. V. Krivosheya, S. E. Sardak, I. V. Shepelenko, Yu. A. Tsekhanov. The use of deforming broaching for enhancing the efficiency of cutter chisels	61
K. Khelil, K. Saouchi, D. Behloul. Effect of the chirp on interactions of pure-chirped solitons	67
R. Rohatynskiy, N. Harmatiy, I. Fedyshyn, D. Dmytriv. Modeling the development of machine-building industry on the basis of the fuzzy sets theory	74
Electrical Complexes and Systems	82
O. A. Plakhtii, V. P. Nerubatskiy, D. A. Hordiienko, H. A. Khoruzhevskiy. Calculation of static and dynamic losses in power IGBT-transistors by polynomial approximation of basic energy characteristics	82
Environmental Safety, Labour Protection	89
S. I. Cheberiachko, O. O. Yavorska, D. H. Klimov, A. V. Yavorskiy. Effect of filtering box parameters on the protective action of gas filters	89
N. M. Fialko, R. O. Navrodska, S. I. Shevchuk, G. O. Gnedash. The environmental reliability of gas-fired boiler units by applying modern heat-recovery technologies	96
M. V. Omelchuk, Yu. S. Korotkova, E. A. Vorontsova. Modeling the process of formation of stagnation zones at hazardous production facility with application of CFD technologies	101
S. I. Zeghina, M. Bounouala, M. Chettibi, A. Benselhoub. Development of new composite cement based on waste rocks from Djebel Onk phosphate deposit (Tebessa-Algeria)	107
K. O. Dombrovskiy, O. F. Rylskiy, P. I. Gvozdiak, O. V. Sherstoboieva, Yu. Yu. Petrusha. Distribution of inorganic nitrogen compounds in purification of storm wastewater of the engine-building manufactory	112
Information Technologies, Systems Analysis and Administration	119
M. I. Horbiichuk, O. T. Bila, Y. I. Zaiachuk, T. V. Humeniuk. Method for evaluating technical condition of aggregates based on artificial intelligence	119

Economy and Management	126
O. Horban, T. Kuprii, R. Martych, L. Panasiuk. Implications of total quality management in Ukrainian higher education institutions: international experience	126
V. M. Molokanova, O. P. Orliuk, V. O. Petrenko, O. B. Butnik-Syverskyi, V. L. Khomenko. Formation of metallurgical enterprise sustainable development portfolio using the method of analyzing hierarchies	131
I. Ishchenko, O. Vysotskyi, V. Perminov. Technology for determining the effectiveness of international cooperation in the mining industry	137
D. Nelipa, S. Rudenko, V. Terenko, S. Vnuchko. Improving the quality of civil service management in Ukraine	143
N. Mazaraki, A. Gerasymenko, V. Kovtun. Information asymmetry as a determinant of competition	148
H. Pylypenko, N. Fedorova, I. Huzenko, N. Naumenko. Paradoxes of economic development: science and innovation in the modern world	153
N. Kalyuzhna, A. Khodzhaian, P. Nebotov. The WTO toolkit in regulating interstate trade and economic cooperation	160
O. O. Knyzhenko, S. O. Knyzhenko, K. V. Yurtayeva. Illegal mining of mineral resources of the national importance: issues of subsoil protection with criminal-legal remedies	167
M. I. Zveryakov, O. Ye. Patlatoi. Innovation development of transition countries in the context of their participation in global value chains	172
N. Lokhman, V. Serebrenikov, T. Beridze, A. Cherep, I. Dashko. Analysis of economic and mathematical modeling of industrial enterprise functioning at multicollinearity based on parameterization	179