

CONTENTS

MINING SCIENCE

1. B. Sobko, Ye. Salnik Research of the bearing capacity of rocks when choosing mining and transport equipment for the development of overflows	7
2. A. Ablets, V. Tron Hybrid monotonic modelling of hydrocyclone efficiency for setpoint control of cut size	16
3. N. Zuievska, V. Berezdetskyi, E. Shukurlu Numerical simulation of sand and foam stemming for improved rock fragmentation in gold-bearing quartzites	29
4. O. Malook Factors affecting the productivity of excavators in amber mining using semi-mobile enrichment plants	44
5. V. Ruskih, O. Haidai, I. Filippov, S. Poimanov Structural design of a resource-efficient support system for preparatory mine workings	55
6. V. Sobolev, M. Kononenko, O. Khomenko, A. Kosenko Mathematical simulation of the crush zone of a rock mass by a borehole charge of explosive substance along the shock adiabat of the rock	65
7. V. Tsopa, A. Pavlychenko, S. Cheberiachko, T. Bilko Development of hierarchy of psychosocial risk hazards in occupational health and safety management systems mining enterprises	81
8. O. Shepel Research methodology for the stress-strain state of rock mass using analytical methods during the transition from open-pit mining technologies to open-pit and underground mining technologies for iron ore	95

EARTH AND PLANETARY SCIENCES

9. V. Ishkov, K. Kolchev, O. Dreshpak, Ye. Kozii, V. Mandrikevych Evolution of peat use for energy needs: from palaeolithic fires to 21 st century biorefining	107
10. V. Logvin, P. Pigulevskiy, S. Yaremii Application of differential characteristics in the analysis of vertical electrical sounding data	120
11. L. Rudakov, I. Chushkina, O. Orlinska, D. Pikarenia Geological and tectonic factors affecting the technical condition of civil hydraulic structures	129
12. D. Rudakov, Yu. Bytko Statistical analysis of hydrological processes in the Samara river basin under climate change	139
13. S. Shevchenko, O. Kursa, S. Kripak Amber as an object of geological and cultural heritage: european experience and prospects for Ukraine	150

MATERIALS SCIENCE AND INDUSTRIAL MACHINE-BUILDING

14. K. Zabolotnyi, O. Antsiferov, S. Havrylenko Features of the dynamics of screening with spatial vibrations of the working body	165
15. S. Fedoriachenko, K. Ziborov, D. Laukhin, V. Korol, D. Harkavenko Theoretical substantiation of effective fracture toughness in metallic alloys of cylindrical shells	175
16. A. Khrutskyi, M. Franuzo System analysis of design features of air centrifugal classifiers and prospects for their improvement	183

***ELECTRIC POWER ENGINEERING,
ELECTROTECHNICS AND ELECTROMECHANICS***

17. B. Moroz, Yu. Papaika, Ye. Koshelenko, M. Lutsenko, B. Makarchuk	
Information support for operation of energy system with distributed generation	196
18. G. Pivnyak, O. Aziukovskyi, I. Lutsenko, O. Zapyshnyi, H. Vlasenko	
Conceptual basis for power industry recovery in Ukraine	207
19. A. Cherniavskyi, O. Borychenko, V. Nakhodov, Yu. Shyshko	
Adaptation of analytical tools of energy management systems of ukrainian industrial enterprises in accordance with the requirements of international standards	219

APPLIED MECHANICS, CONSTRUCTION AND CIVIL ENGINEERING

20. V. Derbaba, S. Alekseyenko, A. Khlynin, D. Lutsenko	
Combined machining of the part on a machine with software control and optimization of mode parameters	231

OIL AND GAS ENGINEERING AND TECHNOLOGIES

21. V. Rastsvetaiev, D. Vasylchenko	
Technological and energy advantages of induction heating in oil transportation systems by pipelines	246

ENVIRONMENT PROTECTION TECHNOLOGIES

22. I. Davydova, V. Melnyk-Shamrai, A. Panasiuk, A. Makhno	
Use of cartographic materials during environmental impact assessment	258
23. R. Dychkovskyi, I. Miroshnykov, A. Pererva	
Synthesis of potassium humate as an eco-friendly method for coal-preparation waste utilization	274
24. O. Nazarenko, A. Berezovska, Ye. Buyakova, A. Bashkirov, Ye. Sherstiuk	
Justification of the construction of recreation reservoirs as a means of preserving and restoration of ecosystem services	288
25. P. Saik, O. Dmytruk, N. Lysyi	
On the issue of utilization of carbon-containing mining waste	296
26. V. Soroka	
Research on the processes of metal-containing waste formation in steel rolling production	309