

## CONTENT

### DEVELOPMENT OF MINERALS

<b>Filatyev M. V., Antoshchenko N. I., Kryzhanovsky Yu. Yu.</b> Theoretical and practical indications of dynamic forecast of gas emission from undermine coal beds and adjacent strata .....	4
<b>Mnuhin A. G., Kobilyansky B. B.</b> Work planning of coal mining in dependence research between social and technical factors .....	12
<b>Antoshchenko N. I., Filatyev M. V., Gasyuk R. L.</b> About efficiency of ventilation schemes of coal mines excavation sites in activation shift of underworked rocks .....	17
<b>Stepanov E. I., Avershin A. A.</b> Indication of rock pressure manifestation in face system integration .....	26
<b>Pyzhov S. V., Antoshchenko N. I., Philatiev M. V.</b> Theoretical substantiation of parameters of irreducible degree of earth surface underworking at coal-seam excavation .....	30

### METALLURGY

<b>Borovik P. V.</b> Metal division in cold condition on cutters with parallel blades process analysis .....	36
<b>Kuznetsov D. Y.</b> Silicon reconditioning in metal-slag system under secondary refining of low-silica steel in ladle furnace .....	43
<b>Smirnova I. V., Bozhanova E. S.</b> Mathematical model of electroreduction of metals on amalgam electrodes of limited volume ....	48
<b>Brovender Y. M., Shubin Y. P.</b> Mining archaeology: revisiting the framework of concepts .....	53

### CONSTRUCTION

<b>Dolzhikov P. N., Kipko A. E., Kiriya K. K.</b> The definition of structural and shifting properties of soils steady by technique of pressure-proof cementation .....	68
<b>Ivlieva E. O.</b> Physical modeling of hydroactivated soil deformation .....	73
<b>Abed S. F.</b> Substantiation of foundation reconstruction with ground clay-cement piles in collapsing loamy soils .....	78

### ELECTRICAL ENGINEERING. RADIOTECHNICS

<b>Dryuchin V.G., Samcheliev Yu.P., Belokha G.S., Bakaev O.V.</b> Power supply with discrete electricity consumption .....	88
<b>Alekseyev V. P., Kanchukova M. V.</b> The study of unsteady heat exchange in the heat accumulator with refractory nozzle under periodic heating and cooling .....	94
<b>Sereda O. G.</b> Protection of asynchronous motors from overload currents with direct control of the winding temperature at the time of start .....	100

# PROCEEDINGS OF OPEN UNIVERSITY PHYSICS READINGS CONFERENCE

<b>Mochalin Y. V., Brazhenko V. N.</b>	
Calculation of energy parameters of laser radiation implementinc the PIV method .....	112
<b>Murga V. V., Antropov S. S., Gamasin D. K.</b>	
Steel products treatment by nonequilibrium plasma in water environment .....	118
<b>Mochalin Ye. V., Yuryev S. A.</b>	
Computational approach to the modeling of turbulent flow in the annular region between rotating cylinders .....	122
<b>Murga V. V., Murga E. V</b>	
Conditions of collective radiated emission formation .....	128
<b>Buslaeva E. V.</b>	
Personal oriented approach in physics teaching at high school .....	133
Requirements to scientific articles in Collection of Scientific Papers of DonSTU .....	138