

**Ministry of Education and Science of Ukraine**  
**Dnipro University of Technology**

**COLLECTION OF RESEARCH PAPERS**  
**OF THE NATIONAL MINING UNIVERSITY**

**№ 70**

Dnipro  
2022

Establisher and publisher  
DNIPRO UNIVERSITY OF TECHNOLOGY  
Established in 1999

**Collection of research papers of the National Mining University** – Dnipro: Dnipro University of Technology, 2022 – № 70 – 209 p.

The results of theoretical and experimental studies in different branches of mining are described; the problems of mining, labour safety and labour protection in mining enterprises, as well as the problems environment protection technologies, geology, electrical energetics, electrical engineering and electromechanics, materials science and industrial machine-building applied mechanics, construction and civil engineering, oil and gas engineering and technologies, automation and computer-integrated technologies are considered. The issues of mining transport equipment operation in mines, pits, open casts are also covered.

The target readership of the collection includes research and engineering staff in the field of mining.

The journal is published by the decision of the Scientific Council of Dnipro University of Technology  
(Record № 9 of 29.09.2022)

Design and layout – A.A. Adamchuk

State Registration Certificate of the printed source  
of mass medium KV № 9030 of 04.08.2004

© Dnipro University of Technology, 2022