eral deposit based on fuzzy decision making JS Afr Inst Min Metall, 108, 385-396.

Nicholas, DE. (1981): Methods Selection-A Numerical Approach. Design and Operation of Caving and Sublevel Stoping Methods, AIME-SME, New York,pages, 330-340.

Nicholas, DE. (1993): Selection procedure Mining engineering handbook, Hartman H, SME, New York:2090-2105

Peijie, Z., Baozhu, L. (2011): The application of TOPSIS method to deep mine water environmental quality assessment. In: Electrical and Control Engineering (ICECE), International Conference on, 2011. IEEE, pp 1802-1806.

Sadollah, A., Eskandar, H., Kim, JH. (2014): Geometry optimization of a cylindrical fin heat sink using mine blast algorithm. The International Journal of Advanced Manufacturing Technology, 73, 795-804.

Wu, L., Yang, Y., Zhang, Q. (2007): TOPSIS method for evaluation on mine ventilation system Journal of China Coal Society, 4, 014.

Yari, M., Bagherpour, R., Jamali, S. (2015a): Development of an evaluation system for blasting patterns to provide efficient production. Journal of Intelligent Manufacturing, 1-10.

Yari, M., Bagherpour, R., Jamali, S., Asadi, F. (2015b): Selection of Most Proper Blasting Pattern in Mines Using Linear Assignment Method: Sungun Copper Mine/Wybór Najodpowiedniejszego Schematu Prowadzenia Prac Strzałowych W Kopalni Miedzi Sungun Z Użyciem Metody Przyporządkowania Liniowego. Archives of Mining Sciences, 60, 375-386.

Yari, M., Bagherpour, R., Jamali, S., Shamsi, R. (2015c): Development of a novel flyrock distance prediction model using BPNN for providing blasting operation safety. Neural Computing and Applications, 1-8.

Yari, M., Monjezi, M., Bagherpour, R. (2013): Selecting the most suitable blasting pattern using AHP-TOPSIS method: sungun copper mine. Journal of Mining Science, 49, 967-975.

Yari, M., Monjezi, M., Bagherpour, R. (2014a): Istraživanje operacija miniranja koristeći metodu odlučivanja (A novel investigation in blasting operation management using decision making methods); Rudarsko-geološko-naftni zbornik (The Mining, Geology and Petroleum Engineering Bulletin), 29, 69-79.

Yari, M., Bagherpour, R., Almasi, N. (2016): An Approach to the Evaluation and Classification of Dimensional Stone Quarries with an Emphasis on Safety Parameters. Rudarsko-geološko-naftni zbornik (The Mining, Geology and Petroleum Engineering Bulletin), 31, 3, 15-26.

Yari, M., Monjezi, M., Bagherpour, R., Jamali, S. (2014c): Developing a mathematical assessment model for blasting patterns management: Sungun copper mine. Journal of Central South University, 21, 4344-4351.

Yari, M., Monjezi, M., Bagherpour, R., Sayadi, A. (2015d): Blasting operation management using mathematical methods. In: Engineering Geology for Society and Territory-Volume 1. Springer, pp 483-493.

Yazdani-Chamzini, A., Yakhchali, SH. (2012): Handling equipment Selection in open pit mines by using an integrated model based on group decision making. International Journal of Industrial Engineering 3

Yoon, KP., Hwang, C-L. (1995): Multiple attribute decision making: an introduction. vol 104. Sage,

SAŽETAK

Razvoj novoga modela za odabir rudarske metode pomoću neizrazite logike; primjer rudnika ugljena Tazareh, provincija Semnan, Iran

Odabir rudarske metode za bilo koju mineralnu sirovinu najvažniji je korak kod započinjanja i održavanja uspješnoga rudarenja. S obzirom na velike troškove i utjecaj na okoliš odabranu rudarsku metodu pridobivanja obično je nemoguće promijeniti kada pridobivanje započne. Odabir metode uglavnom se temelji na geološkim i geometrijskim svojstvima sirovine, utjecaju na okoliš, mogućim opasnostima te općenito uporabi tla na kojemu se rudari. U radu je prikazan razvoj nove metode kojom se postiže stabilan iznos proizvodnje, ali i smanjuju problemi u okolišu. Njezina uporaba objašnjena je na primjeru rudnika ugljena Tazareh. Istaknuti su nedostatci prethodnih rudarskih metoda te kako su oni riješeni novim pristupom nazvanim TOPSIS. Riječ je o postupku odlučivanja s više varijabli, oblikovanome neizrazitom logikom. Danas je upravo ta metoda u primjeni u navedenome rudniku.

Ključne riječi
inteligentni model, odabir rudarske metode, višekriterijsko odlučivanje, neizrazita logika