

# Summaries

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WIESŁAW CHYŁEK

## **Seismic Activity of the Rock Mass during Excavation of Rock Burst Prone Coal Seams in Underground Coal Mine “Wesola” • Kwartalnik Górnictwo i Geoinżynieria • z. 2, 2005**

This paper shows the analysis of rock mass seismic activity during excavation of coal seams 501 and 510 in underground coal mine “Wesola”. A new index describing intensity of seismic energy emission. It is calculated as a quotient of seismic energy to the area of performed excavation. He proposed index may be helpful in the rock burst hazard prediction.

**Keywords:** *seismic activity formation (orogen), shock (rock mass), crump (bump, bounce)*

KRZYSZTOF FILEK, PIOTR ŁUSKA, BERNARD NOWAK

## **The Refrigerants Utilization R507 and R404A in the Mining Cold-Air Refrigerator • Kwartalnik Górnictwo i Geoinżynieria • z. 2, 2005**

In this work is raised a problem of the air refrigeration with a help of the mining cold-air refrigerator with a direct action, where is used two pre-ecological refrigerants – R404A and R507. The compression refrigerator TS-300 was examined on the test stand at 90 variants its work (on 45 for each refrigerants). Those variants were differed in properties (a temperature, a humidity, a flow rate of air refrigeration). The results of the thermodynamic variable measurements after pre-cooling were compared with the results of numerical calculations, which were made by using the mathematical model. The effects of measurements and calculations, which were closed to the mining conditions, were shown in the charts.

**Keywords:** *mining air conditioning, air refrigeration, refrigerants R404A and R507*

JUDYTA HAWRYSZ

## **Selected Issues of a Proposal for a Directive on the Management of Mining Waste • Kwartalnik Górnictwo i Geoinżynieria • z. 2, 2005**

The European Commission has worked on regulating issues of the responsible mine waste streams handling on the European Union territory. As an outcome the Proposal for a Directive of the European Parliament and of the Council on the management of waste from the extractive industries (the MWD Proposal) was published in June 2003. The paper includes a mine waste balance and a list of legal acts being in force which regulate waste problems in Poland and on the EU territory. Subsequently there are outlined the most important aspects of the MWD Proposal as well as indicated problems, which will rise for both mining operators and parties in charge of a supervision on the management of waste from the extractive industries.

**Keywords:** *mining wastes*

JOLANTA MARCINIĄK-KOWALSKA, DIANA PIĘKOŚ

**Research on Usage of Sewage Sludge for Soil Reclamation and Fertilizing • Kwartalnik Górnictwo i Geoinżynieria • z. 4, 2005**

In the paper the results of research on usage of sewage sludge for plants cultivation carried out between 5 July 2004 and 2 May 2005 are presented. Three mixtures of soil and sludge (0%, 50% and 75% sludge) were applied as a bedding for several species of plants: Common Juniper, Silver Fir, Chinese Arborvitae, American Arborvitae, Common Polypody, Goat's Bread, Japanese Camellia, Fortune's Spindletree, Thick-leaved Stonecrop. Height and width of plants were measured and visual records were taken in eye to conduct visual analysis. Some of analyzed species grow well on soil and sludge bedding: Chinese and American Arborvitae, Thick-leaved Stonecrop, Goat's Bread, Japanese Camellia and Fortune's Spindletree.

**Keywords:** *sewage sludge, sewage sludge treatment, fertilizers, soil reclamation*

WŁADYSŁAW MIKOŁAJCZYK, KRZYSZTOF FILEK

**Applying of Balance Equation to Selected Physical Issues which Occur in Heading in a Mine • Kwartalnik Górnictwo i Geoinżynieria • z. 2, 2005**

In this article the general balance equation has been shown for analysing physical items. After having these physical items interpreted, it is possible to receive equation for such processes like: heat conduction, filtration or gas diffusion. Those processes take place in issues of mining ventilation, in that case there has been placed some examples of other calculations of processes which can appear in case of heading in a mine.

**Keywords:** *balance equation, heat conduction, filtration, diffusion*

RYSZARD SNOPKOWSKI

**Functions of Random Variables – Possibility of Reduction of Stochastic Models. Part I • Kwartalnik Górnictwo i Geoinżynieria • z. 2, 2005**

This paper contain consideration about described the possibility of reduction of stochastic models by usage functional relationships, which can occur between random variables in model. Functional relations were also described as outcome schedules let schedule beta, chi-square, Cauchy, F-Snedecor, gamma and uniform. In this way the conducted reduction of model has profitable influence on his further usage, and so simplifies the record in figure of computer programme, and then the process of stochastic simulation is shortened.

**Keywords:** *modelling the processes, stochastic simulation, functions of random variables*