



**POLITECHNIKA ŚLĄSKA**  
**WYDZIAŁ GÓRNICTWA I GEOLOGII**



# ***PRACA DOKTORSKA***

**Porównanie analitycznego i symulacyjnego  
modelowania przepływającego strumienia urobku  
w systemie zbiornik przyszybowy –  
urządzenie wyciągowe**

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### **Summary of doctoral thesis**

#### **„Comparison of analytical and simulation modelling of a stream of excavated rock flowing through a system shaft bin – hoisting installation”**

A subject of the study was a comparison analysis of two modelling methods describing a flow of extracted rock through a basic mechanised system utilized in underground mines: shaft bin – hoisting installation.

Basing on data collected from underground mines identification (in mathematical sense) of a stream of excavated rock was done that allows for an evaluation of usefulness of models that have been developed in this regard till now.

Gathered information on rock flow was used for construction of a simulation model depicting flow of rock won over shaft bin and hoist. Estimation of basic parameters of the flow has also been done.

An analysis of rock flow using analytical way of description was made as well. The results of it were compared with corresponding outcomes obtained from statistical experiment. Merits and demerits of both methods of examination was indicated together with a scope of compatibility accompanying by usefulness for mining engineering practice.

*Staronick*