Modelling of Powered Roof Supports Work

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Abstract : Due to the increasing efforts on saving our natural environment a change in the structure of energy resources can be observed - an increasing fraction of a renewable energy sources. In many countries traditional underground coal mining loses its significance but there are still countries, like Poland or Germany, in which the coal based technologies have the greatest fraction in a total energy production. This necessitates to make an effort to limit the costs and negative effects of underground coal mining. The longwall complex is as essential part of the underground coal mining. The safety and the effectiveness of the work is strongly dependent of the diagnostic state of powered roof supports. The building of a useful and reliable diagnostic system requires a lot of data. As the acquisition of a data of any possible operating conditions it is important to have a possibility to generate a demanded artificial working characteristics. In this paper a new approach of modelling a leg pressure in the single unit of powered roof support. The model is a result of the analysis of a typical working cycles.

Keywords : machine modelling, underground mining, coal mining, structure

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