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SUMMARY OF DOCTORAL THESIS:

„Orogen subsidence description under the influence of underground mining using the theory of cellular automata.”

In this paper there was presented a new method of simulation of the orogen subsidence under the influence of underground mining. This method uses the theory of cellular automata.

Basing on the definition of the finite cellular automata there were built deterministic and nondeterministic flat models of orogen. There were defined mathematical formulas describing model subsidence and the subsidence on the surface for horizontal and inclined seams. Also there was shown opportunity of faults representation in the model cross-section and non-linear aggregation of the influences of multi-layer exploitation.