# INVESTIGATION OF THE NATURAL FREQUENCIES AND THE MODE SHAPES OF CIRCULAR SAW WITH COMPENSATING SLOTS AND LOW NOISE SLOTS BY THE FINITE ELEMENT METHOD

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## ABSTRACT

*This paper shows the methods and results of the simulative investigations of circular saw with compensating and low noise slots. The investigations are an extension of the previous ones of the authors. The natural frequencies and mode shapes of this kind of circular saws are obtained as results of the investigations.*

*The estimation was done by the application programme Cosmos Works. The physical and mechanical properties of the materials were taken into account. The adequate mechanic-mathematical model was used for the aims of the study. The typical characteristics of the structure of this kind of circular saws were taken into account in the model. The circular saw was drawn in 3D by the application programme Solid Works and it was modelled with four nodes 3D finite elements. The results of this investigation prove the practical significance of the model. They point to the possibilities of determining resonant regimes and the results are a basis for their detailed studying.*

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