

Article Abstract

Title:	Defining the change of meshing rigidity caused by a crack in the gear tooth's foot
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Abstract:	In this paper, research results concerning the influence of the cracks at the base of the tooth of wheel on the change of the wheel rigidity is presented. In order to achieve this, a series of experiments was conducted with the use of models FEM and BEM. The correctness of the models was verified with the use of analytic method, whereas the final results were confirmed in a research experiment conducted on the endurance machine MTS. The achieved results enabled the conduction of research devoted to the possibility of use of simulation models of toothed gears to get the teaching data for artificial neural networks. The best of neural networks correctly worked during tests with real data.
Keywords:	Gearbox, FEM, BEM, stiffness