
Modeling of the regularities of the size effect when dynamically loading samples of the simplest configurations

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Analyses results of laboratory tests of samples of copper wires and cotton thread in uniaxial tension, conducted by the authors in order to study the effect of specimen length on the dynamic strength of samples are presented. A substantial change in the average strength and characteristics of the scatter with increasing the length of specimens for the uniaxial tension is shown. The obtained results are compared with those of full-scale simulation experiment. It is stated that the results of the work open the way for the formation of stochastic models of strength flat and solid samples.

Keywords: *size effect, strength, fracture, uniaxial tension, experiments on dynamic loading, mathematical model.*

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