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Some trends in ratcheting research. (English. Russian original) Zbl 1472.74036

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Summary: A classification option is proposed for the manifestations of Ratcheting – one-sided accumulation of deformation in a material during its cyclic loading – depending on the degree of complexity of the entire deformation process. The absence of experimentally important experiments with extremely small cycle amplitudes is noted and some programs of such experiments are formulated. The names of the two types of ratcheting are offered.

MSC:

74C99 Plastic materials, materials of stress-rate and internal-variable type
74A20 Theory of constitutive functions in solid mechanics
74-02 Research exposition (monographs, survey articles) pertaining to mechanics of deformable solids
74-05 Experimental work for problems pertaining to mechanics of deformable solids

Keywords:

complex loading; constitutive equation; rheology; Bairstow effect; Malyshev effect; experiment

Full Text: DOI

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