



Research on Fatigue Behavior of Metals and Alloys

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Message from the Guest Editor

In modern conditions of operation of machinery and constructions, the main tasks are to increase strength, resource, survivability, and durability. The durability and reliability of machines is largely determined by their fatigue resistance, since in the vast majority of cases for machine parts, the main type of loading is dynamic, repeated, and alternating loads, and the main type of failure is fatigue. The issues of fatigue and strength are the subject of the most careful consideration from the point of view of both scientific research and experimental design and technological developments. The difficulty in assessing the cyclic strength of construction materials is related to the fact that many different factors influence fatigue failure (structure, state of the surface layer, temperature and test conditions, loading frequency, stress concentration, cycle asymmetry, scale factor, and a number of others). Therefore, the study of the physical nature of changes in various parameters of metals during fatigue is of great scientific interest.





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Message from the Editor-in-Chief

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