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GH36合金的蠕变损伤行为及分析

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BEHAVIOUR OF CREEP-DAMAGE OF GH36ALLOY AND ITS ANALYSIS

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摘要 | 参考文献 | 相关文章

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摘要 对GH36合金在650℃下的蠕变损伤行为进行研究,基于Kachanov-Rabotnov理论,对蠕变损伤的本构方程进行处理以得到一组线性控制方程组,再利用现代变分原理进行数值求解和分析,给出该材料的蠕变曲线和损伤曲线;并与GH36(在650℃下)的蠕变试验结果进行比较。

关键词： 蠕变 损伤 变分原理

Abstract： The paper studies the behaviour of creep-damage of GH36 alloy at 650℃ . Based on Kachanov-Rabotnov theory, the constitutive equations of creep-damage are normalized to obtain a group of linear control equations, and then the modern variational principle developed from optimal control theory is applied to numerically solving and analysing the problem under the constrained conditions (i.e. linear control equations). The solved curves of creep and damage compared with the results of experiments are presented to show an application. The proposed method is easily put into practice. and may indicated a way for numerical analysis of creep-damage problems.

Keywords： creep damage variational principle

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