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SEP数值法在寿命预测中的应用

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APPLICATION OF NUMERICAL METHOD OF SEP TO LIFE PREDICTION

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摘要

为了预测精密构件如涡轮盘材料的蠕变-疲劳寿命,经实践证明应变能区分法（SEP）优于应变范围区分法（SRP）,特别是对高强度低延性材料,SEP的优越性更明显。

关键词： 应变能 CP型试验 优化计算 寿命预测

Abstract:

In order to set up life prediction equation of CP-type test, in accordance with current computational method of SEP or SRP, low cycle fatigue （PP-type） test and CP-type test must be conducted.However, the present paper shows that by the direct use of CP-type test and its data, but without using PP-type test data, and parameters in the life prediction equation of CP-type test can be obtained, based on method of least square and numerical optimization .This method, thus, saves test cost and simplifies procedures for establishing the equation of SEP model. It also lays the foundation for applying SEP model to conditions which can only be performed by CP-type tests, and expands the applicable range of SEP thereby.

Keywords: strain energy CP-type test optimizing computation life prediction

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