

粘弹性悬架阻尼缓冲件温度场特性 Characteristics of Temperature Field on Damping Buffers for Viscoelastic Suspensions

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关键词: 履带车辆 悬架 缓冲件 温度场

摘要: 对履带式车辆典型工况下的粘弹性悬架阻尼缓冲件的温度场进行分析。不考虑材料参数的温度相关性,对结构-温度的耦合场进行单向解耦;将结构分析的结果作为温度分析的条件,同时对温度模型施加边界条件。橡胶受载时为非线性大变形,使用有限元方法获得数值解。求解得到典型工况下局部过热的位置和温度值,得到温度与影响因素的关系曲线,并进行公式拟合。分析结果可为粘弹性悬架阻尼缓冲件的结构优化提供参数。 The temperature field of damping buffers for viscoelastic suspensions mounted on crawler vehicles was analyzed under typical working conditions. The temperature correlation of the material was ignored to decouple the structure-thermal coupling field. The analytical results of structure were used as the basic conditions for thermal analysis. Because of nonlinear and large deformation under load, the temperature field was calculated by finite element method (FEM). The positions of local hot spots and temperatures under typical loads were obtained by computation. The curves of temperature against factors and its fitting equation on engineering applications were also determined. The results provide reasonable parameters for damping buffers structure optimizing.

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