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论文

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考虑连杆柔性和运动副粘性摩擦的曲柄滑块机构的动力学建模及计算

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DYNAMIC MODELING AND CALCULATION OF SLIDER-CRANK MECHANISM WITH FLEXIBLE CONNECTING ROD AND VISCOUS FRICTION

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摘要

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摘要 建立了考虑连杆柔性和运动副粘性摩擦的曲柄滑块机构的动力学数学模型,并对一个算例进行了数值仿真,结果表明,连杆的柔性和运动副的粘性摩擦对机构的运动都具有一定的影响

关键词: 柔性 连杆 粘性摩擦 曲柄滑块机构 动力学

Abstract: Lagrange equation is used to set up dynamic equations for the slider crank mechanism with a flexible connecting rod. Viscous friction and coupling effect between body motion and elastic deformation of the connecting rod are considered in the formulation. The analog computation of a sample shows that viscous friction and flexibility of the connecting rod have effects on the motion of the mechanism.

Keywords: flexibility connecting rod viscous friction slider-crank mechanism dynamics

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