

## 多段金属带复合无级传动效率特性分析

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关键词: 金属带复合无级传动 多段 效率

摘要: 建立了等比式多段金属带复合无级传动正反相位工作时的效率模型, 通过仿真, 得到了系统效率与金属带CVT传动比、传递转矩及输入转速的关系曲线。结果表明: 等比式多段金属带复合无级传动无论处于正相位还是反相位工况, 系统传递的效率随金属带传动比、传递转矩以及输入转速的增加而增加, 且都要明显高于金属带CVT传动的效率; 系统扩大了金属带无级传动的速比范围, 提高了传递的功率, 因此该传动系统能够应用于大功率车辆传动中。A efficiency model of the multi-range composite CVT system working on the positive and negative phases was established. The relation curves between overall efficiency of the multi-range composite CVT system and transmission ratio of metal pushing V-belt CVT, transmission torque and input rotate speed, were obtained by simulation. The simulated results indicated that no matter the CVT system works on positive or negative phase, the system efficiency increases with the CVT transmission ratio, torque or input speed increased. The efficiency is higher than that of metal pushing V-belt CVT system obviously. Furthermore, the system can be applied in high-power vehicle transmission, which enlarges the speed ratio range of transmission and increases the overall power.

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