基于路面条件判断的牵引力控制系统压力控制策略

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关键词： 车辆 牵引力控制系统 压力控制 路面条件判断

摘 要： 针对牵引力控制系统门限值压力控制策略容易产生控制超调的缺点，提出基于路面条件判断的压力控制策略。利用轮速信号进行路面条件判断，针对不同路面条件提出不同的压力控制目标，计算需要的目标压力并估算实际的干涉压力。实车试验结果表明：该控制策略可以大大减小制动力矩与发动机驱动力矩的无谓对耗，能够有效减少压力波动及轮速波动，在对开路面上汽车的起步加速能力提高了47%。 One pressure control strategy was presented for traction control system (TBS). Wheel speed sensor signals were used to judge road condition; different pressure control aims were suggested for different road conditions; target pressure was calculated and real pressure was estimated. The strategy was confirmed with vehicle experiment. The result showed that this pressure control strategy could greatly reduce the meaningless consumption of engine torque by the brake torque. The strategy could greatly reduce the fluctuation of pressure and the wheel speed fluctuation resulting from pressure fluctuation; it could also improve the vehicle starting ability up to 47%.

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