

湿式双离合自动变速器起步控制 Starting Control Based on Wet Dual Clutch Transmission

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关键词: 双离合自动变速器 湿式离合器 起步控制 模糊PID控制

摘要: 针对装有湿式双离合自动变速器的起步控制问题, 根据起步控制评价指标, 制订起步控制策略, 提出了基于模糊PID控制离合器压力的控制方法, 实现了离合器压力的精确控制, 给出起步控制流程。通过3种不同油门开度的起步试验和短时间连续起步停车试验, 验证该控制策略。试验结果表明, 该控制策略能够适应不同工况的起步要求, 离合器油温得到良好控制。Aimed at the problem of starting control of dual clutch transmission equipped with wet clutch, the starting strategy was developed on the basis of clutch control evaluation and dynamics analysis about transmission. The clutch pressure control method was proposed based on fuzzy PID control, and the detailed fuzzy control process was developed. The control flow of DCT starting was determined so that the clutch actual pressure got better control. Starting experiments of three different throttle and continuous start-stop experiments in a short time were executed. The experimental results verified the rationality of the control strategies. It could meet the requirements of smooth and rapid vehicle starting, and establish the foundation for the further development of DCT.

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