

自动离合器起步模糊控制

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摘要: 针对自动离合器起步控制问题,采用改进的发动机恒转速控制作为总体控制原则,提出了一种以节气门开度、发动机转速与目标转速的相对偏差及发动机转速变化率为主要控制量的离合器起步模糊控制策略,实现在满足冲击度条件下的发动机恒转速控制。样车试验结果表明,车辆在多种工况下均能顺利起步,起步平稳快捷,发动机转速波动小,起步冲击与起步意图相符。试验表明控制策略和算法具有良好的自适应性。Aimed at the problem of starting control of automatic clutch, an improved constant engine speed control strategy has been applied as the total control principle. A new clutch starting fuzzy control strategy by using throttle opening, relative deviation between engine speed and its target and engine speed change rate as the main control parameters was proposed. The strategy was supposed to implement constant engine speed control with jerk constraint. A long-term of experiments have been carried out and the experimental results showed the vehicle could start successfully under various conditions and the starting is smooth and quick, and is able to reflect driver's intention with small engine speed fluctuating. From the experimental result, we could draw the conclusion that the fuzzy control strategy has good self-adaptability.

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