Special Session title

V2X-Based Intelligent Decision-Making and Control

Special Session proposer(s)

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Abstract

V2X-based intelligent decision-making and control plays an important role under the intelligent vehicle-infrastructure cooperation systems, which has significant influences on the safety, efficiency and environmental-friendly of transportation systems. It is unimaginable difficult to be obtained due to complex and unpredictable traffic environment that is mainly consisted of traffic scenarios and different kinds of vehicles and infrastructure with the networked, coupled and nonlinear structure. Currently, the strategy and approaches to make efficient and adaptive decisions cooperatively for large-scale vehicles and complex traffic systems are still a great challenge. More and more interesting researches are undertaken and some impressive results appeared recently to be displayed in some typical demonstrations, covering the cooperative decision-making and swarm control for intelligent driving, the risk assessment for mixed driving vehicles, the intention and analysis of drivers' behavior, cooperative decision-making and intelligent control for urban traffic, transits and expressways, and the hardware-in-loop simulation and virtual assessment of V2X-based ITS.

Therefore, the topic will be supportively welcomed to enhance the development of appropriate approaches and implementation.

Keywords

- Cooperative Techniques and Systems
- Theory and Models for Optimization and Control
- Human Factors in Intelligent Transportation Systems

Topics of interest

- Cooperative decision-making and swarm control for intelligent driving
- Multi-mode wireless communication and its reliability for V2X-based ITS
- Risk assessment for mixed driver-self, connected and autonomous driving vehicles
- Intention of drivers' behavior under V2X-based ITS
- Cooperative decision-making and intelligent control for urban traffic and transits
- Cooperative decision-making and intelligent control for expressways
- Hardware-in-loop simulation and virtual assessment of V2X-based ITS
- Testing Scenario Library Generation and performance assessment for CAV