DESCRIPTION

Provides an up-to-date, in-depth look at the current research, design, and implementation of cooperative vehicle safety communication protocols and technology.

Improving traffic safety has been a top concern for transportation agencies around the world and the focus of heavy research and development efforts sponsored by both governments and private industries. Cooperative vehicle systems—which use sensors and wireless technologies to reduce traffic accidents—can play a major role in making the world's roads safer.

*Vehicle Safety Communications: Protocols, Security, and Privacy* describes fundamental issues in cooperative vehicle safety and recent advances in technologies for enabling cooperative vehicle safety. It gives an overview of traditional vehicle safety issues, the evolution of vehicle safety technologies, and the need for cooperative systems where vehicles work together to reduce the number of crashes or mitigate damage when crashes become unavoidable.

Authored by two top industry professionals, the book:

- Summarizes the history and current status of 5.9 GHz Dedicated Short Range Communications (DSRC) technology and standardization, discussing key issues in applying DSRC to support cooperative vehicle safety.

- Features an in-depth overview of on-board equipment (OBE) and roadside equipment (RSE) by describing sample designs to illustrate the key issues and potential solutions.
• Takes on security and privacy protection requirements and challenges, including how to design privacy-preserving digital certificate management systems and how to evict misbehaving vehicles

• Includes coverage of vehicle-to-infrastructure (V2I) communications like intersection collision avoidance applications and vehicle-to-vehicle (V2V) communications like extended electronic brake lights and intersection movement assist

*Vehicle Safety Communications* is ideal for anyone working in the areas of—or studying—cooperative vehicle safety and vehicle communications.

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