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Vehicle to Vehicle Communication: Collision Avoidance Scenarios

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Abstract : This research paper discusses vehicle-to-vehicle technology as an important application of linear algebra. This communication technology represents an efficient and promising application to help to ensure the safety of the drivers by warning them when a crash possibility is close. The major link that combines our topic with linear algebra is the Laplacian matrix. Some main definitions used in the V2V were illustrated, such as VANET and its characteristics. The V2V technology could be applied in different applications with different traffic scenarios and various ways to warn car drivers. These scenarios were simulated programs such as MATLAB and Python to test how the V2V system would respond to the different scenarios and warn the car drivers exposed to the threat of collisions.

Keywords : V2V communication, vehicle to vehicle scenarios, VANET, FCW, EEBL, IMA, Laplacian matrix
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