A Hierarchical Optimization Approach for Cooperative Vehicle Networks

Article

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Abstract

This research presents a control algorithm for the cooperative control of unmanned mobile robots. The algorithm relies on continuously solving an open loop mixed integer linear programming optimization problem. Since the model can become quite complex when the number of robots and the complexity of the environment increase, computational problems can arise. To overcome these problems an approach involving a hierarchical decentralized formulation of the optimization problem is proposed.

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