Connectivity Awareness in Networked Robotic Systems

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Abstract

Maintaining the network connectivity in mobile multi-robot systems (MRSs) is a key issue in many robotics applications. In our view, the solution to this problem consists of two steps: (i) making robots aware of the network connectivity; and (ii), making use of this knowledge in order to plan robots tasks without compromising the connectivity. We propose a novel distributed algorithm that will be executed on individual robots to make robot be aware of the network connectivity (i). We also rigorously formalize the problem of checking the robustness of a wireless network based on the conception of connectivity- awareness. The algorithm featured with very low communication overhead in comparison with existing works.

References

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