



**RESEARCH ARTICLE**

# Capacity-Optimized Topology Control in Wireless Networks

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*Abstract— Networks plays a vital role in networks communication that in terms of wired or wireless. The details are as Cooperative Communication become apparent as a new scheme of diversity in Mobile Ad hoc Networks. Topology control and Network capacity are important upper layer issues in considering the performances of a MANETs in Cooperative communication. In this article, we put forth the concern of topology control with aspiration of maximizing the network capacity by proposing a scheme called MSRCC(Spatial Reuse Maximizer in Cooperative Communication). We propose two algorithms that select the most energy efficient neighbor nodes, which assist a source to communicate with a destination node; an optimal method and a greedy heuristic. In addition, we consider a distributed version of the proposed topology control scheme. Our findings are substantiated by an extensive simulation study, through which we show that the Cooperative Bridges scheme substantially increases the connectivity while consuming a similar amount of transmission power compared to other existing topology control schemes.*

**Keywords: - Cooperative Communication; Topology; Control; Connectivity**

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