

## **IMPLEMENTATION REPORT ON “INTERFERENCE-AWARE ROBUST TOPOLOGY DESIGN IN MULTI-CHANNEL WIRELESS MESH NETWORKS”**

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### **Abstract**

The performance of wireless networks can be significantly improved by multi-channel communications compared with single-channel communications since the use of multiple channels can reduce interference influence. In this paper, we study interference-aware topology control in IEEE 802.11-based multichannel wireless mesh networks with dynamic traffic. Channel assignment is one of the most basic and important issues in such networks. Different channel assignments can lead to different network topologies[20]. Over the last decade, the paradigm of Wireless Mesh Networks (WMNs) has matured to a reasonably commonly understood one, and there has been extensive research on various areas related to WMNs such as design, deployment, protocols, performance, etc. The quantity of research being conducted in the area of wireless mesh design has dramatically increased in the past few years, due to increasing interest in this paradigm as its potential for the “last few miles”, and the possibility of significant wireless services in metropolitan area networks. This recent work has focused increasingly on joint design problems, together with studies in designing specific aspects of the WMN such as routing, power control etc. in isolation.

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**Keywords:** wireless Mesh Network, Survivability, Topology control, Channel Assignment.