Decentralized mmWave Medium Access Control (MAC) Scheme

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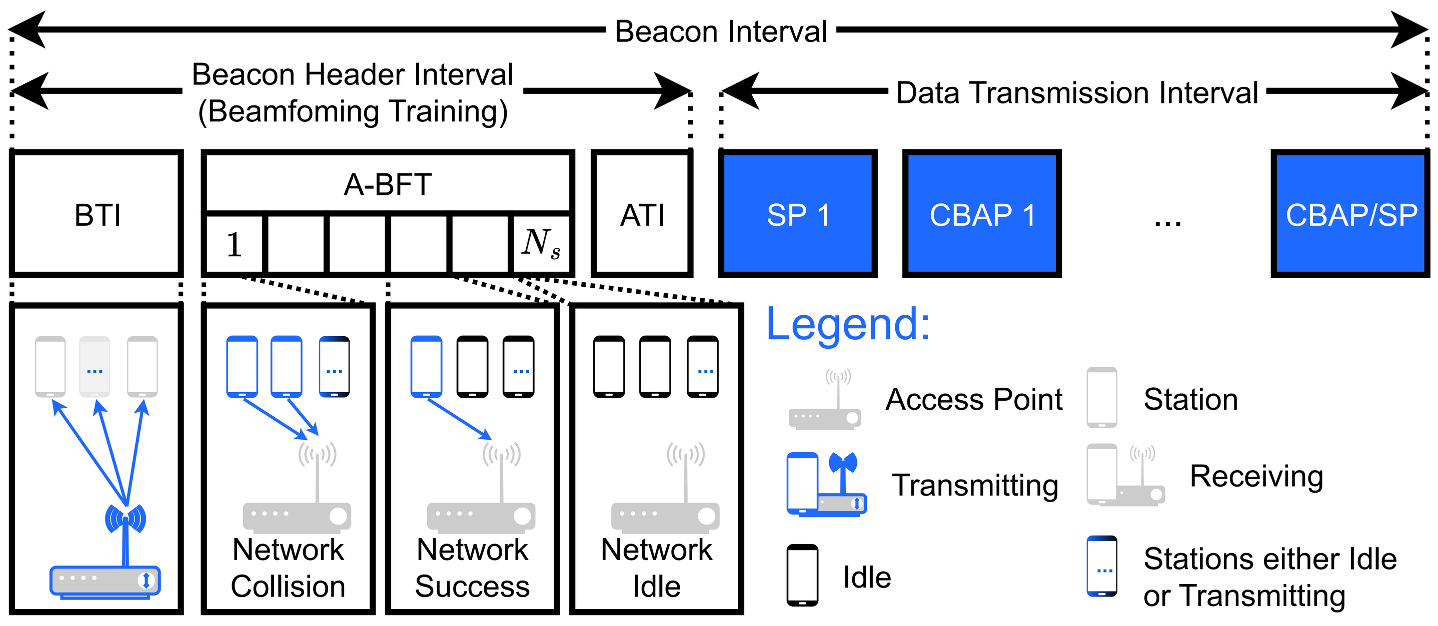
Introduction

mmWave communications protocols (e.g., 802.11ay) are adopted to support many delay-sensitive applications, e.g., augmented reality, virtual reality, and holographic teleportation.

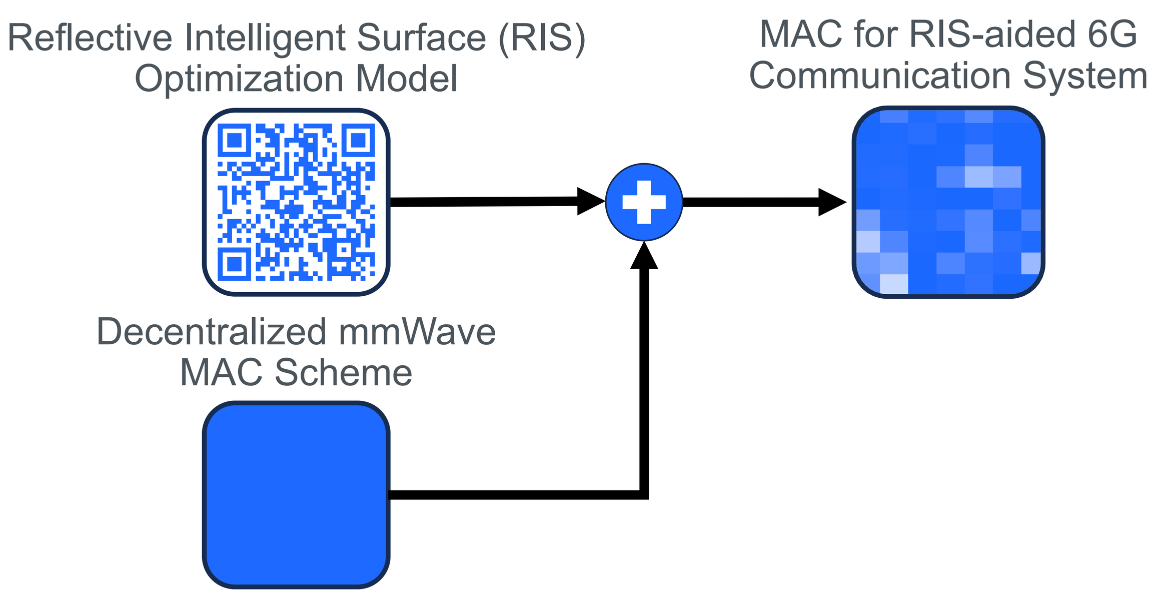


What is the impact of decentralized MAC schemes on the mmWave beam management and protocol's performance?

Contributions

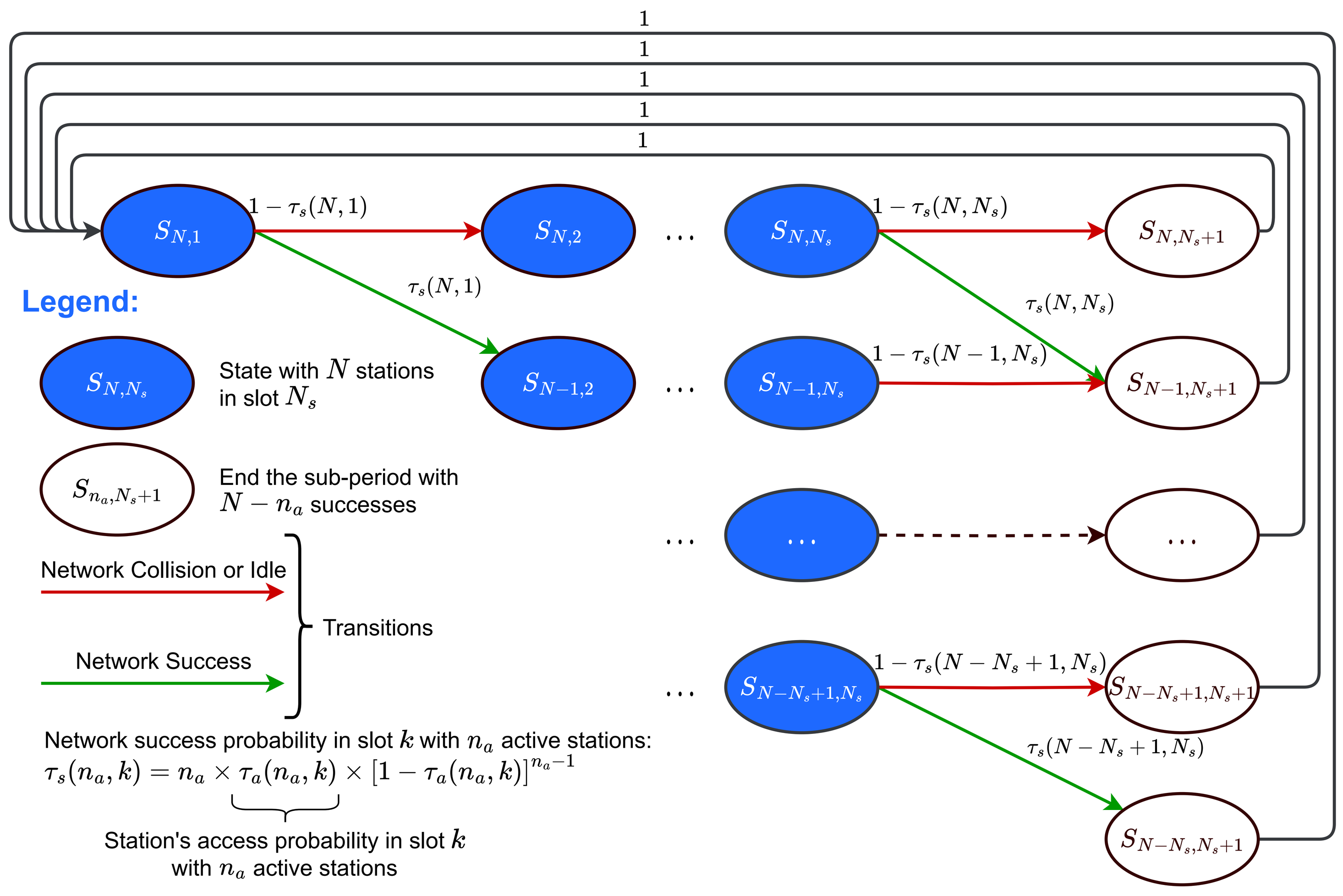
- A proposed Markov model drawing valuable insights into the performance of competing nodes, enabling better design decisions.
- Validation of the proposed model through Monte Carlo Simulations.
- Identification of the most advantageous operational region when compared to state-of-the-art protocols.

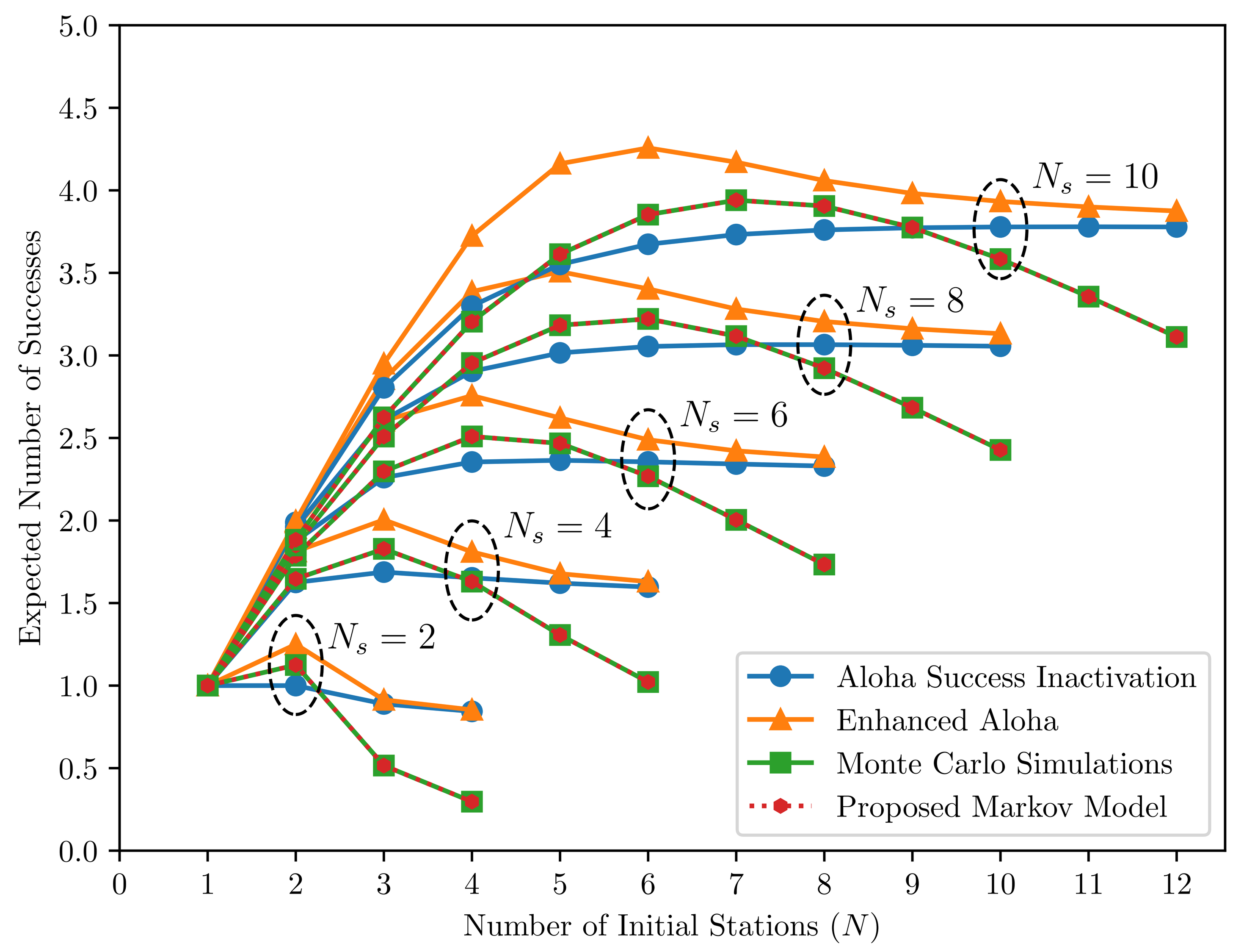
Future Work



Method

The solution proposed captures the stations' competition throughout the sub-period, using the following Markov model:





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