

Exploiting geometrical node location for improving spatial reuse in sinr-based stdma multi-hop link scheduling algorithm

Nachwan Adriansyah, author

Deskripsi Lengkap: <https://lib.ui.ac.id/detail?id=9999920530422&lokasi=lokal>

Abstrak

This paper proposes a novel approximation for a Spatial Time Division Multiple Access (STDMA) link-scheduling algorithm based on geometrical node exploitation to improve spatial reuse performance. The geometrical location of nodes was exploited in order to reduce computational complexity and to achieve higher accuracy in transmission to satisfy the Signal to Interference and Noise Ratio (SINR) requirement. The process of SINR global checking is a main constraint in the SINR based interference model but is reduced through geometrical partition and interference approximations based on geometrical node locations. Simulation results show that the proposed algorithm increases the spatial reuse performance in comparison to the greedy physical interference model in similar scenarios. The model utilizing geometrical partition exhibits lower complexity compared to the pure physical interference model that includes SINR global checking.