
ALEX LOPEZ-ORTIZ, University of Waterloo
Broadcasting in Conflict-Aware Multi-Channel Networks

We consider the broadcasting problem in conflict-aware multi-channel networks. These networks can be modeled as undirected graphs in which each edge is labeled with a channel, with the restriction that edges with the same channel cannot successfully transmit data to a node simultaneously. Using simple properties of graphs we give hardness results as well as efficient algorithms for various network topologies. We then give lower bounds for the number of rounds in balanced complete graphs, an important subset of multi-channel networks on complete graphs. Lastly we propose a channel assignment together with a broadcasting algorithm that completes the broadcast in two rounds.