HETEROGENEOUS MOBILE AGENTS IN GRAPHS

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Computational tasks using teams of mobile agents deployed in a network arise in the context of many applications and theoretically studied problems ranging from two-agent problems like rendezvous to multi-agent scenarios like searching, exploration, patrolling or evacuation.

Agents are often assumed to be identical but scenarios with agents having different capabilities have also been studied in various contexts.

Agents with different speeds were considered in [5], where multiple robots are traveling along a ring to determine their initial positions and in [4, 8] with the goal of patrolling.

In [3] agents capable of traveling in two modes that differ with maximal speeds when searching a line segment were studied.

The problem of evacuating agents with an additional constraint that each type of agent can only use a specific subset of edges in the graph was studied in [1] and the similar approach was applied to the rendezvous problem in [2, 6, 7].

We present an overview of the concept of heterogeneous mobile agents in graphs, the recent results, and open problems.

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