

# **DEPLOYMENT OF A SWARM OF MOBILE ROBOT FOR MULTI-TARGET TRACKING WITH NETWORK MAINTENANCE IN BUILDING ENVIRONMENT**

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## **Abstract**

The multi-robot system is used more and more in the scientific research as well as in the practice. Therefore, the development and improvement of its applications is inevitable. The problem using the multi-robot system to explore the unknown environment and trace target is increasingly interested. The robots have to send data about the environment, the target and the communication to user, and they will be recovered after they completed the task. This thesis represents the deployment of a decentralized network of mobile robots for multi-target tracking with network maintenance in the indoor environment. The deployment algorithm is proposed to help the robots find out the target cloud in the indoor environment. The multi-target tracking algorithm is employed to detect the targets and distribute them in the network, and the communication network maintenance is also mentioned.

**Keywords:** *Multi-Robot System, Deployment, Multi-Target Tracking, Communication Network Maintenance*