

An Effective Coverage Enhancing Algorithm in Directional Sensor Networks

梁秋國, 徐寅鐘, 蔡志鴻

Computer Science & Information Engineering

Computer Science and Informatics

ckliang@chu.edu.tw

Abstract

Directional sensor network is composed of many directional sensor nodes. Unlike conventional sensors that always have an omni-angle of sensing range, directional sensors may have a limited angle of sensing range due to technical constraints or cost considerations. Area coverage problem is still an essential issue in directional sensor networks. In this paper, we study the area coverage problem in directional sensor networks. The problem is to maximize the area coverage of a randomly deployed directional sensor network. Each directional sensor can through rotating orientation to get better coverage in an interested region. We, therefore, propose a greedy algorithm to enhance the area coverage. Simulation results show that our proposed algorithm outperforms the previous proposed method in term of the coverage area.

Keyword : directional sensors; coverage; greedy algorithms