Abstract

Recently, wireless sensor networks have attracted a lot of attention. They are being used in many fields like security and surveillance, disaster prevention, agriculture, and traffic monitoring. Such environments may consist of many low cost nodes, each having the ability of gathering, storing, and dealing with environmental information and communicating with neighboring nodes via wireless links. One of the fundamental problems in sensor networks is the coverage problem, which reflects the quality of service which is provided by a particular sensor network and how well a sensor network is monitored or tracked by sensor. The coverage concept is depending from several points of view due to a variety of sensors and a wide-range of their applications. In this paper, simulation is performed to determine the degree of coverage of for a sensor network in terms of k-mean coverage. All sensor nodes with same sensing range are deployed for the simulation. Simulation is performed on MATLAB. Simulation results shows as degree of node is greater than one then that node will goes into sleep mode so that particular region must be covered by at least one sensor node which is in active state which result in less energy consumption and also show that as we increase the number of nodes the degree of the nodes also get increase.
Analysis of k-coverage in Homogenous Wireless Sensor Networks

References

- Chi-Fu Huang and Yu-Chee Tseng. The coverage problem in a wireless sensor network. Department of Computer Science and Information Engineering National Chiao-Tung University Hsin-Chu, 30050, Taiwan
- Mihaela Cardei and Jie Wu. Coverage in Wireless Sensor Networks. Florida Atlantic University, Boca Raton, FL 33431

**Index Terms**

Computer Science Wireless

**Keywords**

Coverage Wireless sensor network k-coverage Energy Base station