Abstract

As wireless sensor networks (WSNs) continue to attract more and more researchers attention, new ideas for applications are continually being developed, many of which involve consistent coverage with good network connectivity of a given area of interest. For the successful operation of the wireless Sensor Network, the active sensor nodes must maintain both sufficient sensing coverage, and also sufficient network connectivity. These are two closely related essential prerequisites and they are also very important measurements of quality of service (QoS) for wireless sensor networks. This paper presents the design and analysis of novel protocols that can dynamically configure a network to achieve guaranteed degrees of coverage and connectivity. Our method utilizes a hybrid approach that provides sufficient sensing coverage and ensured network connectivity. In this paper, we incorporate the solution for eliminating the coverage holes. Simulation results show that our Lifetime prolonged Coverage, Connectivity Configuration (LPC3) Protocol can effectively reduce the number of active sensors and prolongs the network lifetime. Consequently, it realizes that the energy is best used and at the same time the sensor network lifetime is prolonged effectively,
Lifetime Prolonged Coverage, Connectivity Configuration (LPC3) Protocol for Wireless Sensor Network

References

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Index Terms

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