

عنوان مقاله:

Presenting a Hybrid Method to Increase Lifetime of Wireless Sensor Networks using Effective Determination of Operating Mode of Sensors In Regional Coverage

محل انتشار:

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خلاصه مقاله:

In recent years Wireless Sensor Networks have attracted researchers' attention due to vast applications, One of the most prominent issues regarding these networks is coverage which is considered as a quality of service parameter, In this study, we try to address energy shortage in WSNs through finding a set of optimal coverage nodes in a specific environment. This is performed utilizing effective removal of extra sensors and generating several networks with area coverage, In the first step we use graph based method to classify sensors. The area is divided into several smaller regions in a dynamic manner in such a way that the whole region is covered with sensors. In the next step each set analyzed using genetic algorithm so that optimal or semi-optimal number of active nodes which are necessary to cover the region could be selected. Finally, performance of sensors in coverage of the area is evaluated using monte Carlo method. Decreasing the number of sensors in each set and generating multiple networks, this method saves more energy which prolongs lifetime of the network.

کلمات کلیدی:

wireless Sensor Network, graph based view, genetic algorithm, Monte Carlo

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