Abstract

There are typical applications where only periodic patrol inspections are sufficient instead of continuous monitoring like in traditional coverage. This periodic monitoring is termed as sweep coverage.In the sweep coverage scenario ,deployment of static sensor nodes may partially solve the purpose but it suffers from poor efficiency and unnecessary extra overhead. Moreover static sensor network suffers from static sink neighbourhood problem as in static sensor network all sensing data from the sensors are relayed to the sink node (base station) through multi-hop. As a result, the sensors near to the sink node become the bottleneck since they have to relay the data of other nodes. Once they die, the sink disconnects from the rest of the network while the rest of sensors are still fully operational with sufficient residual energy.

To overcome this problem in my work, I proposed Mobile Sink Wireless Sensor Network (**MSWSN**). I assume that the given region is Rectangular and my aim is to do Sweep Coverage for Boundary of the Region. In Wireless Sensor Network Sensor node (Mobile Sink) has fixed communication range so in order to cover the boundary Mobile sink will not traverse whole boundary but visit certain points(known as points to visit) therefore Points to visit are to be selected in such a way that every boundary point lie within the communication range of Mobile sink from at least one points to visit. Keeping above coverage condition in mind my main objective is to choose points to visit in such a way that Mobile Sink must visit every edge of the boundary during traversal and the overall length of closed path travelled by the Mobile sink to collect the data is minimum.