Cluster Head Selection Scheme for Minimizing the Changes of the Cluster Members considering Mobility in Mobile Wireless Sensor Networks

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(Pt9)Abstract—**In Mobile Wireless Sensor Networks (MWSNs), selecting a node with different mobility as a cluster head causes frequent changes of the members. According to TDMA schedule based on LEACH, all sensor nodes can send data at just a specially assigned slot in the next round after a certain period of time. Therefore, the allocated slots to the node which moved away from their cluster head will be discarded. Also it has to spend more energy to keep in touch with the current cluster head. Hence, we propose a cluster head selection scheme for minimizing the changes of the cluster members in MWSNs. The cluster heads are elected by calculating the waiting time for themselves. The criteria for cluster head selection are an energy level and the similarity of movement. To support the mobility, we propose a dynamic slot allocation for reducing the unused slots based on the predicted residence time between the cluster head and the members. Results from experimental implementations have demonstrated that the proposed clustering scheme prolongs the network lifetime and reduces the number of leaving nodes.**

(Pt9)Keyword— **Mobile Wireless Sensor Networks, Cluster head selection**

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