

Energy Efficient Fuzzy Logic based Stable Election Protocol in Wireless Sensor Networks

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Abstract – Wireless Sensor Networks (WSNs) are used to monitor/observe vast inaccessible regions through deployment of large number of sensor nodes in the sensing area. For majority of WSN applications, the collected data needs to be combined with geographic information of its origin to make it useful for the user; information received from remote Sensor Nodes (SNs) that are several hops away from base station/sink is meaningless without knowledge of its source. Furthermore, these sensor nodes are usually operated by the battery which is normally not easy to replace. Till now many routing protocols have been proposed for energy efficiency of both homogeneous and heterogeneous environments. This paper proposes a Fuzzy-based hybrid protocol for some nodes to transmit data directly to the base station. The proposed approach is based on fuzzy level information which minimizes the time for the selection of cluster head.

Keywords – Fuzzy Logic, SEP, Sensor Nodes, Wireless Sensor Networks.