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LIGHT WEIGHT MAJORITY VOTING BASED DATA ACCURACY ASSURANCE SCHEME FOR WIRELESS SENSOR NETWORKS USING QUADTREE TOPOLOGY

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ABSTRACT—Sensor nodes are often deployed in unattended environment, where an adversary can capture them, so sensor nodes may send false data to the base station. Existing authentication mechanisms can not prevent such attacks. In this paper we propose a mechanism for verifying data accuracy. For this, we divide the sensor field using Quadtree-based space partitioning technique, and analyze data accuracy with majority voting scheme. Data read from one quad is forwarded to neighboring quad leader. Proposed scheme also considers dynamically changing topology of sensor network. The proposed scheme enhances data accuracy and is energy efficient due to low routing over head.

Key Words: Data Accuracy, Quad Tree, Majority Voting, Data Aggregation, Sensor Network