



IMPROVED WEIGHTED CENTROID LOCALIZATION ALGORITHM BASED ON RSSI DIFFERENTIAL CORRECTION

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Abstract- Node localization is one of the key technologies of wireless sensor networks (WSN). Due to the indoor environment requires a high positioning accuracy, an improved algorithm based on RSSI is put forward. In terms of RSSI ranging, the error correction coefficient received from self-correcting locator beacon nodes, and then had been applied to distance solving from unknown nodes to the beacon nodes. In the choice of weights, the algorithm uses inverse distance and replaces the method of determining the distance and the reciprocal of the weights, and also fixes the weight factor. On the complexity of the algorithm, select one of the most recent four from unknown node to beacon nodes, reducing the amount of data calculation. Simulation results show that the proposed algorithm positioning accuracy has been greatly improved.

Index terms: Node localization, RSSI, differential correction, wireless sensor networks, indoor environment