

Abstract: Semi-auto DV-Hop Localization Algorithm Based Area Division in WSN

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Abstract

Node self-localization is one of the key problems needs to be studied and solved in the field of WSN. In numerous localization algorithms, DV-hop is popular with discussion or referenced localization algorithm, but it takes the results of hops multiplied by network average jumps as the actual distance between the nodes, while the accuracy of calculating the average every hop distance, the character of network, the node density, topology structure, etc are major factors which influence the positioning accuracy of DV-Hop algorithm. We put forward an improved DV-Hop algorithm, area division based semi-auto DV-Hop localization algorithm (ADBSA DV-Hop). Several ideas are employed to improve DV-Hop, including: Semi-auto average size of per hop acquirement, area division, and sticking to border. ADBSA DV-Hop will be simulated on MATLAB platform, to compare with DV-Hop. Experiment indicted that ADBSA DV-Hop performed better than DV-Hop, and competently met the localization requirement of sticking to border.

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