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Improving Directed Diffusion in sensor network using learning automata: DDLA new approach in Directed Diffusion

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ABSTRACT

One of the important and challenging matters in sensor network is energy of life span of nodes in the network. Node's movement, specifically movement of central node (sink) in these networks cause to increase routing updating overhead and consequently to increase power consumption and to decrease network life span. Directed Diffusion algorithm is one of methods in sensor network which is a data-oriented algorithm. One of the important definitions of basic algorithm is not supporting central node's movement. In case of movement of central node, data packs pass on unreliable rout toward central node. In fact, they pass a rout on which the central node is not present at the time being and it has moved to another place. Therefore, route of data is out of order and there is the need to build new routes. This problem causes to create lots of overhead and waste energy. In this article, it is tried to solve mentioned problem of central node's movement by learning automata. In suggested algorithm by learning automata a route amendment tree is built which prevents from creation of the whole route and its overhead.

INDEX TERMS

- **Author Keywords**

Directed Diffusion , Dynamics , Learning Automata , Wireless Sensor Network , component

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