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A Taxonomy of Routing Protocols in Wireless Sensor Networks

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Abstract : The Internet of Everything (IoE) presents today a very attractive and motivating field of research. It is basically based on Wireless Sensor Networks (WSNs) in which the routing task is the major analysis topic. In fact, it directly affects the effectiveness and the lifetime of the network. This paper, developed from recent works and based on extensive researches, proposes a taxonomy of routing protocols in WSNs. Our main contribution is that we propose a classification model based on nine classes namely application type, delivery mode, initiator of communication, network architecture, path establishment (route discovery), network topology (structure), protocol operation, next hop selection and latency-awareness and energy-efficient routing protocols. In order to provide a total classification pattern to serve as reference for network designers, each class is subdivided into possible subclasses, presented, and discussed using different parameters such as purposes and characteristics.

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