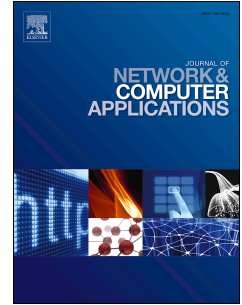


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# Mobility-aware Medium Access Control Protocols for Wireless Sensor Networks: A Survey

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## Abstract

The popularity of wireless sensor networks has grown rapidly in recent years, with new directions including healthcare monitoring and disaster response. This increased use in mobile applications has naturally led to new challenges to the design of sensor protocols, especially in the media access control (MAC) sublayer. In order to design a MAC protocol which takes mobility awareness into account, understanding how mobility can be described by mobility models is crucial. Moreover, for applications that transform between static, periodic-mobile, random-mobile, or variable number of nodes, flexibility in design is a key consideration. Therefore, in this paper mobility pattern, mobility models and mobility estimation algorithms for wireless sensor networks are discussed. The state of the art of medium access control protocols with mobility-handling capabilities is overviewed and a comparative study of the most well-known mobility aware MAC protocols is given. Finally, future research directions for mobility-aware MAC protocols are presented. We be-

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