World Academy of Science, Engineering and Technology
International Journal of Energy and Environmental Engineering
Vol:9, No:10, 2015

A Hybrid MAC Protocol for Delay Constrained Mobile Wireless Sensor Networks

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Abstract : Mobile Wireless Sensor Networks (MWSNs) carry heterogeneous data traffic with different urgency and quality of service (QoS) requirements. There are a lot of studies made on energy efficiency, bandwidth, and communication methods in literature. But delay, high throughput, utility parameters are not well considered. Increasing demand for real-time data transfer makes these parameters more important. In this paper we design new MAC protocol which is delay constrained and targets for improving delay, utility, and throughput performance of the network and finding solutions on collision and interference problems. Protocol improving QoS requirements by using TDMA, FDM, and OFDMA hybrid communication methods with multi-channel communication.

Keywords : MWSN, delay, hybrid MAC, TDMA, FDM, OFDMA
Conference Title : ICEM 2015 : International Conference on Energy Management
Conference Location : Paris, France
Conference Dates : October 29-30, 2015