

## عنوان مقاله:

Lifetime Assessment in Interconnected IEEE 802.15.4 Clusters with Slave-Slave Bridges under Constant Number of Clusters

## محل انتشار:

ششمین کنگره بین المللی توسعه و ترویج علوم و فنون بنیادین در جامعه (سال: 1397)

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## خلاصه مقاله:

In this paper, we investigate the lifetime of the network which is composed of a number of interconnected IEEE 802.15.4 network clusters in which ordinary nodes have the role of bridge nodes. Bridge operation consists of a transmission to the coordinator node known as CSMA-CA uplink transmission and a transmission to the bridge node known as CSMA-CA downlink transmission. Using the above mechanism, a bridge node periodically communicates with the neighboring clusters. Using queuing model and probabilistic analysis we present performance results in which the effects of changing different parameters i.e. number of bridges and event sensing reliability are investigated. Our analysis determines how affecting parameters should be changed in order to extend network lifetime. Our results also show fair distribution of energy consumption of nodes which implies that all nodes of a cluster will deplete their energy within short interval of time.

## کلمات کلیدی:

IEEE 802.15.4 beacon-enabled mode; slave-slave Bridge; sensing reliability; coefficient of variation; skewness; network lifetime; wireless sensor networks

## لینک ثابت مقاله در پایگاه سیویلیکا:

<https://civilica.com/doc/916787>

