Coded Redundant Message Transmission Schemes for Low-Power Wide Area IoT Applications

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© 2012 IEEE. We propose a novel transmission scheme, suitable to Internet of Things, which sends coded redundant information in independent packets. The results indicate that this scheme outperforms, in terms of reliability, transmit power, and coverage, the typical direct transmission strategy, schemes based on replications, and methods that embed coded redundant information in packets that contain new information. Moreover, we demonstrate the impact of selecting the most appropriate transmission scheme according to the target information outage probability and node location.