

## **ZigBee technology application for a wireless sensor network used in mud-logging system**

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### **Abstract**

It is an actual problem to organize a wireless network for collecting data from the sensors of geologic-technological investigation which allows relatively free to distribute the sensors in space. A telemetry system based on wireless transmission modules of the IEEE 802.15.4 standard is presented. It is used for solving of tasks related to collecting, storing and transmitting of geologicotechnological and geophysical data. We showed the structure of the telemetry system. There is a detail consideration of the module of interfacing with sensors (MIS) in this paper. Also we calculated the effective data rate for the wireless telemetry network and power consumption of the MIS.

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### **Keywords**

Data collecting, IEEE 802.15.4, Mud-logging system, Wireless sensor network, Wireless telemetry system, ZigBee