Application of Wi-SUN Sensor Network for Railway Monitoring

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In this study, we developed a condition monitoring system for railway structures using Wi-SUN technology and applied it to the railway ground structures. The Wi-SUN prototype sensor has a mode transition function of adaptively changing the frequency of measurement and transmission based on the data acquired by itself. As a result of the evaluation of its application to a railway commercial line for about 1 year on, the Wi-SUN wireless sensors which had been installed according to its radio propagation reliability achieved an arrival rate of 98% on average. It is confirmed that the possibility of applying the Wi-SUN to railway environment is high.