

# **Development of a Sensor Data Collecting System for the Ground Coils of the Superconducting Maglev**

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In order to manage the ground coils of the superconducting maglev more effectively, we developed a sensor data collecting system. In this system, wireless sensors were mounted on the ground coils to monitor conditions, and monitoring results were collected by a running maintenance vehicle. We incorporated a wake-up receiver which controls the sleep mode using wireless wake-up signals, into the wireless sensor so as to reduce power consumption and radio wave interference. In the sleep mode, the power consumption of the wireless sensor when waiting the wake-up signal was 1.24mW. The system was evaluated in Kyusyu Shinkansen. When the wake-up signal was sent at 0.5-second intervals from a Shinkansen vehicle running at 248km/h, wireless sensor data was received 5 times. Based on this result, we can expect to introduce the data collecting system to the superconducting maglev vehicle running at 500km/h.