

## **Network Formation Method and Transmission System among Vehicles for Condition Monitoring**

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The wireless sensor network has been applied to the condition monitoring of various railway facilities in recent years. In this paper, we focus on the wireless sensor network for train condition monitoring. To aggregate the measurement data from the sensor installed on each vehicle, it is required that the network is formed among vehicles and the sensor data is transmitted to the aggregation device via an appropriate route. However, there is an issue of the change in the network due to the coupling or decoupling. For this issue, we propose a network system consisting of an inner vehicle network and an outer vehicle network, and also develop a method of forming the outer vehicle network. In this paper, we report the test result from a prototype system and the simulation result of our proposed method.