

## **Elucidation of Noise Near the Bogie using Sound Source Visualization Method**

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There are many sources of noise generated from equipment such as gear devices for a railway vehicle installed in the narrow space of a bogie frame under the floor of a vehicle. Therefore, it is difficult to separate sound sources onboard a vehicle with a sound level meter, and up to now there is no method for separating sound sources. As a method to solve this problem, we are working on applying a sound source visualization method to noise measurement of railway drive device. As the sound visualization method, the 4-channel beamforming method (BF method) and the envelope intensity method (EI method) are used as appropriate, and the test results are compared. This paper reports the results of noise measurement using a sound source visualization method in a bench test of a drive device, and the results of a study on improving accuracy. We confirmed that the beamforming method has excellent imaging stability for transient sounds, and that image processing using multiple small microphone arrays improves the imaging accuracy of the BF method.