Transfer Path Analysis (TPA) of the Structure Borne Sound from the Bogie of the Railway Vehicle

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It is important to understand exact transfer paths in reducing the interior noise of the railway vehicle effectively. The purpose of this study is to propose a new analytical method of clarifying the contribution ratios according to the transfer paths of the structure borne sound from the bogies. In this paper, we have shown the conditions under which the operational TPA can be applied by evaluating the coherence between the inputs, and the influence of the chosen inputs on the output using the data at the rolling stock test plant. Moreover, we have applied the operational TPA to the data in running tests under the conditions and have clarified the contribution ratios according to the vibration transfer paths from the bogie to the cabin floor.