Proposed Method of Roller Rig Excitation Test for Simulating Vehicle Running Conditions on Actual Track

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Rolling stock testing plants with roller rigs are widely used for the investigation of railway vehicles performance. Some plants can simulate track irregularities by the excitation of the rollers. However, the car dynamics in lateral direction on roller rigs are different from that on actual track. Therefore, the excitation of the rollers simulating the track irregularities does not reproduce running conditions on actual track. Thus, we have developed a compensating method for roller rig inputs, which enables the bogie motion on roller rig to be equivalent to that on actual track. Furthermore, we have also tested the validity of the method.