

**Quantitative Verification of Hardware-In-the-Loop Simulation System
Simulating Train Vehicle Behaviour**

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For high-speed trains, devices coupling train coaches have been developed and are playing an important role for ride comfort, accordingly investigation of train vehicle dynamics has become more important. However, in Japan, field test conditions for high-speed trains are very restricted because the field test must be carried out on commercial lines. If we could explore dynamics of train equipped with coupling devices on a test bench, we could accelerate the development of such devices. Our research group has developed a Hardware-In-the-Loop Simulation (HILS) system to create a bench test environment for train vehicles. Now we present quantitative verification by comparing the HILS result and the simulation result of train vehicles.