

## Controlled dynamical system for leveling vibrations of longitudinal forces in railway couplers of multi-part rail vehicles

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*Abstract:* The work presents a technical solution designed for modern, multi-section rail-vehicles, which move at high speeds and have one low-floor to increase the comfort of travelers. In the multi-part rail vehicle without an appropriate control system, braking forces, as well as tractive forces of each unit of this vehicle can not appear at the same time. In most cases, it can be a source of the generation of unfavorable braking and acceleration waves. Therefore, the proposed solution uses cruise control, coupled with active eliminators of longitudinal vibrations of the rail vehicle. Moreover, during braking, the action of the energy recovery system of the rail vehicle is under the simultaneous influence of cruise control.

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