



SUDA LAB.



[Dynamics and Control of Vehicle]

Institute of Industrial Science Advanced Mobility Research Center (ITS center)

Specialized Field ● Dynamic Systems and Control

Department of Mechanical and Bio functional Systems

<http://www.nozomi.iis.u-tokyo.ac.jp/>

Study on Vehicles with Advanced control, Multi-body Dynamics and Environmental Physiology for Sustainable Mobility.

1. Dynamics and Monitoring of Vehicle-Infrastructure-Human System

Improvement of curving performance for railway vehicle, Detection of vehicle abnormal state and derailment, Contact mechanics of Wheel/Rail and Tire/Road, Driver characteristics and modeling, Brain Activity Measurement, Sensing using Quasi Electrostatic Field, Personal mobility vehicle, Machine Learning and Big Data Analytics, Free access Platform Gate

2. Study on social acceptability and comfort for transportation systems

Ecosystem, Evaluation method, Seat arrangement of commuter train and automobiles, Cabin design of "EcoRide"

3. Dynamics and Control of Vehicle Systems

Dynamic analysis of railway vehicle, Automobile, Bicycle, Personal Mobility Vehicle, Multi-body dynamics, Self powered and advanced active vibration control applied to ground vehicles, ship, elevator and maglev system

4. ITS (Intelligent Transport Systems) Projects

Sustainable ITS project, Truck Platoon project, Autonomous Driving project, Inter-vehicle communication, ASV project in Hiroshima

5. Study on Advanced Mobility with Motion Simulators

Development of mixed reality transport experiment space, Comfort evaluation of railway vehicle, Experimental platform for scaled model vehicle

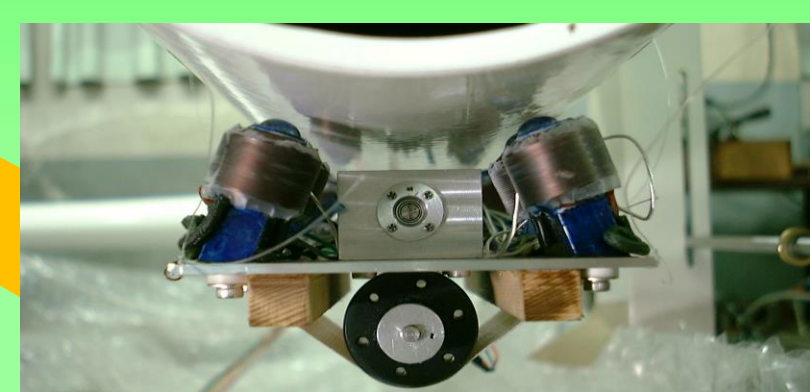
6. Development of Proving Ground for Advanced Mobility Research

Driving simulator, Railway test track, Test field for automobile and road traffic, Traffic light

Multibody Dynamics and Control



Ship Anti-Rolling System with Self-Powered Active Control



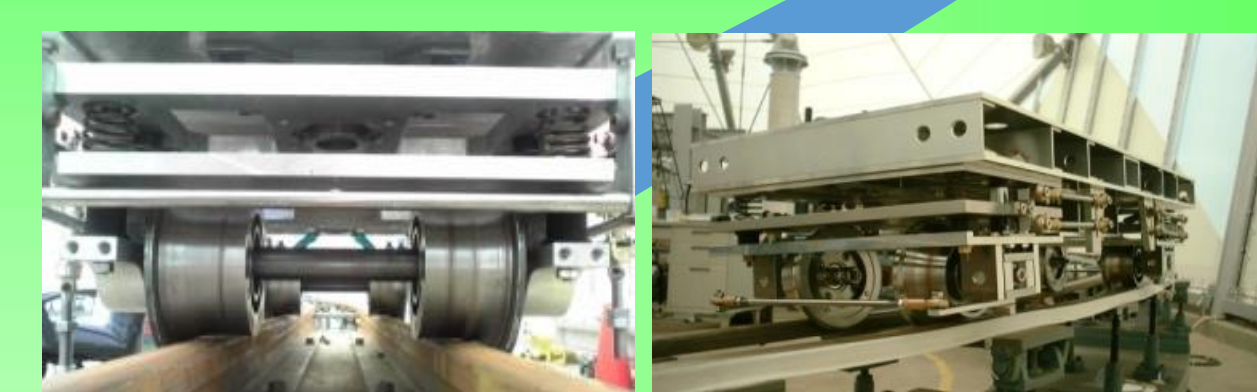
Maglev System with Controlled Damper



Eco transport system "Eco Ride"



Full and Scaled Model Rail Vehicle Test Track for Innovative Designed Railway Truck



Railway Vehicle



Tire Test Machine



ASV Project in Hiroshima

SUDA Lab.
2017



Variable-boarding-location-type Automatic Platform Gate



Railway Vehicle Mockup for Study on Comfort



Electro Magnetic Suspension



Energy-Saving ITS



Stavic : Suda Stability Vehicle

Driving Simulator with 6 d.o.f motion, Turntable & 360° Full Screen

Driving Simulator with Truck Cabin



ITS & Automobile



Experimental Traffic Light for ITS Research



Personal Mobility Vehicle

Comfort and Human Interface

