



SUDA LAB.

[Dynamics and Control of Vehicle]

Institute of Industrial Science Advanced Mobility Research Center (ITS center)
 Department of Mechanical and Bio functional Systems
 Mobility and Field Science, Social Cooperation Program
<http://www.nozomi.iis.u-tokyo.ac.jp/>

Specialized Field ● Dynamic Systems and Control

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

1. 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

2. ITS (Intelligent Transport Systems) Projects

Sustainable ITS project, Energy-saving ITS project, Inter-vehicle communication, ASV project in Hiroshima

3. 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

4. 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, Onboard flywheel battery system, Personal mobility vehicle, Variable-boarding-location-type automatic platform gate

5. Study on Comfort

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

6. Development of Proving Ground for Advanced Mobility Research

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

Multibody Dynamics and Control

Ship Anti-Rolling System with Self-Powered Active Control

Tire Test Machine

Electro Magnetic Suspension

Railway Vehicle

Maglev System with Controlled Damper

Eco transport system "Eco Ride"

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

ASV Project in Hiroshima

Energy-Saving ITS

Stavic: Suda Stability Vehicle

Personal Mobility Vehicle

Comfort and Human Interface

Variable-boarding-location-type Automatic Platform Gate

Railway Vehicle Mockup for Study on Comfort

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 **Comfort and Human Interface**