SUDA LAB.

[Dynamics and Control of Vehicle]

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

Department of Mechanical and Bio functional Systems

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, Truck Platoon project, Autonomous Driving 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 , Brain Activity Measurement, Sensing using Quasi Electrostatic Field, Personal mobility vehicle, Machine Learning and Big Data Analytics, Variable-boarding-location-type automatic platform gate

5. Study on Social Acceptability and Comfort

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

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

Railway Vehicle

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

Tire Test Machine

ASV Project in Hiroshima

SUDA Lab. 2016

Variable-boarding-location-type Automatic Platform Gate

Railway Vehicle Mockup for Study on Comfort

Energy-Saving ITS

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

Driving Simulator with Truck Cabin

Electro Magnetic Suspension

Stavic : Suda Stability Vehicle

ITS ＆ Automobile

Experimental Traffic Light for ITS Research

Personal Mobility Vehicle

Comfort and Human Interface

Institute of Industrial Science