

Intelligent Control Systems Laboratory

[Laboratory] 3M409

[URL] <http://www.ics.esys.tsukuba.ac.jp>



The Intelligent Vehicle Control System

Background:

The dynamic characteristic of the four-wheeled vehicle is nonholonomic.

Position (x,y) and the direction are controlled by steering angle and speed v.

Driving is difficult.

Purpose:

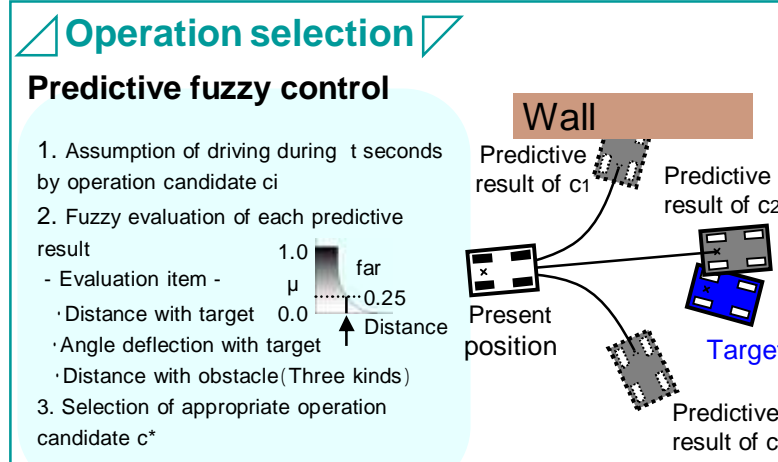
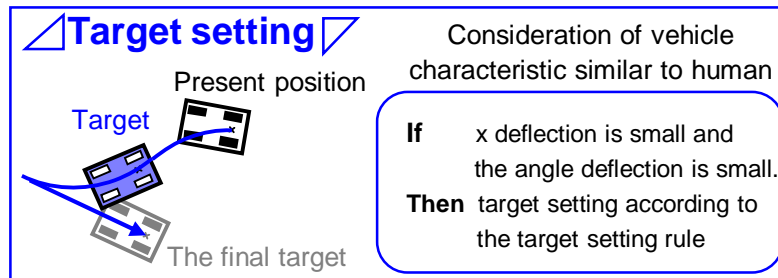
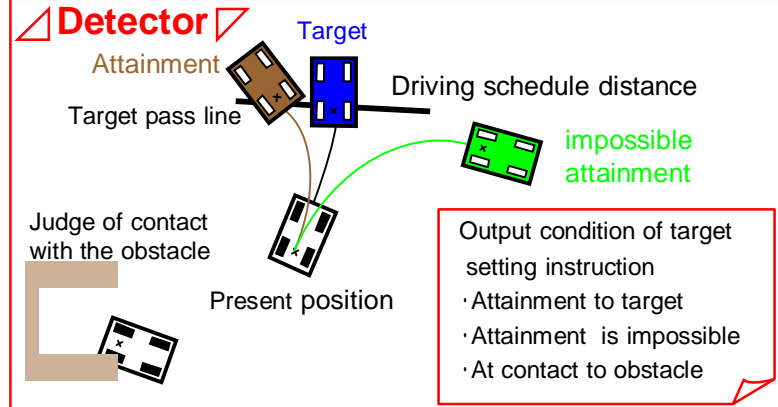
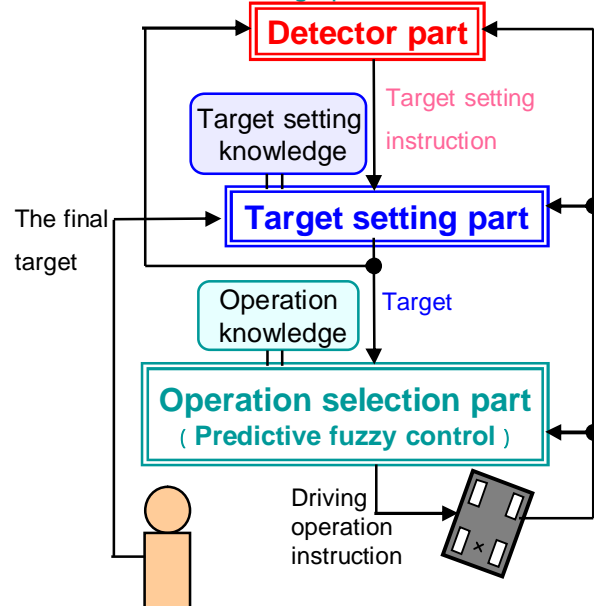
Configuration of gentle system to human who reduces human's operation load
- Copy of human's driving -

◆ **Detector** (Contact with obstacle etc.)

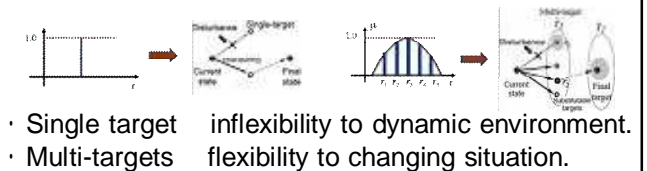
◆ **Target setting**

(Consideration of vehicle characteristic)

◆ **Prediction of future's state and selection of driving operation**



Soft-Target-Based Soft Decision for Mobile Vehicle in Dynamic Environment



Automatic operation of four-wheeled vehicle using fuzzy target

- Fuzzy target Smooth automatic operation

- Set the relay point to the destination (Relay point knowledge)

