

# Simple Control Technique for a Geared Wheel Drive Systems Applied to Small Electric Vehicles



<b>Masahiko ITOH</b>	
<b>Professor</b>	itoh@sendai-nct.ac.jp
<b>Affiliated Societies</b>	The Japan Society of Mechanical Engineers, The Japan Society for Precision Engineering, IEEE.
<b>Keywords</b>	Mechanics and mechatronics-related (20010) Robotics and intelligent system-related (20020)

## Research Topics

- Geared wheel drive system for a small electric vehicle
- Vibration suppression control of one-wheel geared-drive system
- Slip control for four-wheel drive system

## Research Seeds

### 1. Slip Control for a Wheel Drive System

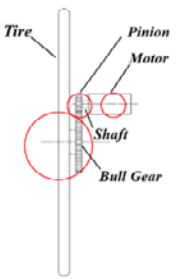


Fig. 1 Geared Wheel Drive System.

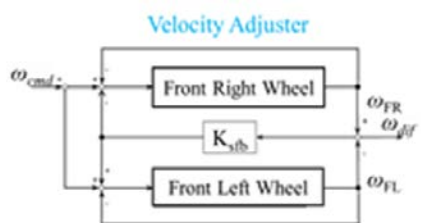


Fig. 2 Block Diagram of Slip Control System.

### 2. Simulation Results of Slip Control

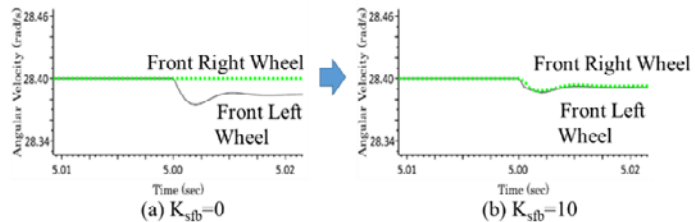


Fig. 3 Simulation Results on Slip Control.

A slip suppression control was proposed as an application to a four-wheel drive system. The effectiveness of speed compensation was verified. Slip suppression control using a speed adjuster is effective.

## Related Technology

- Model-based control for suppression of the torsional vibration generated in a one wheel geared-drive system