

Control Applications of Intelligent Information Processing Technique

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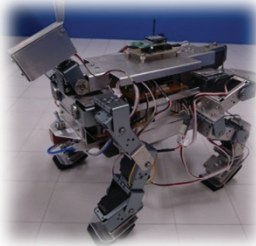
Developed experimental system in our lab.



Renewable energy system



Remote control mobile robot



Quadruped robot



Power assist knee orthosis



Multiple mobile robots



Electric wheel chair

Content:

In recent years, various systems coexisted within human such as industrial machines and life support systems tend to increase. In addition, a high performance and a high accuracy for these systems are strongly required. To meet these requirements, we make applied researches on a control system using an intelligent information processing technique on the basis of biologically inspired approaches. For example, we propose the design and implementation methods of the control system combining soft-computing techniques (fuzzy, neural network, etc.) and control theories. Current research themes are listed below:

- ❖ Output prediction of wind or photovoltaic power generator using weather forecast model
- ❖ Cooperative control of multiple mobile robot system
- ❖ Adaptive gait control for quadruped robot using central pattern generator network
- ❖ Operator's support system for remote controlled robot
- ❖ Motion control of power assist knee orthosis
- ❖ Safety driving support system of electric wheel chair

Keywords: intelligent control, robot, wind energy and photovoltaic power generation, rehabilitation system

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