

Actuator Control Theory

2 units (selection)

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Target This class introduces the characteristics of actuators, the design methods of servo system.

Outline The structure and function of actuators or control valves, the design of servo system, PWM control method, the practical and intelligent control algorithm are explained.

Style Lecture

Keyword *actuator, servo system, control algorithm*

Relational Lecture “**Digital Control Theory**”(0.5), “**Measurement Science and Technology**”(0.5)

Requirement Students are required to have a good understanding of undergraduate-level control engineering and related subjects.

Goal To understand the design methods of servo system using actuators.

Schedule

1. Outline of actuators
2. Micro-drive electromotive actuators
3. Electromotive actuators
4. Novel actuators
5. Hydraulic actuators
6. Hydraulic control valves
7. Hydraulic servo system
8. Pneumatic actuators
9. Pneumatic control valves
10. Pneumatic servo system
11. PWM control method
12. Model matching methods
13. Neural controller
14. Two-degree-of-freedom control method
15. Model driven control method
16. Examination

Evaluation Criteria Assignments count 30 % and examination count 70 %.

Textbook To be introduced in the class.

Reference To be introduced in the class.

Contents <http://cms.db.tokushima-u.ac.jp/cgi-bin/toURL?EID=216552>

Student Able to be taken by only specified class(es)

Contact

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