TM02

Poster Session

13:30-15:30 **Chair1 : Young I. Son (Dong-A Univ., Korea)**
Room : Base 2nd Floor-Zillertal **Chair2 : Hyun-Sik Ahn (Kookmin Univ., Korea)**

TM02-7

Output Feedback Stabilization of Non-Minimum Phase Nonlinear Systems

Nam H. JO(Soongsil Univ., KOREA), Young I. SON(Dong-A Univ., KOREA), Hyungbo Shim(Hanyang Univ., KOREA)

- an output feedback stabilizing controller for non-minimum phase nonlinear systems
- Assumption 1: the Jacobi linearization of the given nonlinear linear system is controllable
- Assumption 2: an appropriate transformation which transforms the zero dynamics into a special form
- Assumption 3: the system satisfies the observability rank condition
- Augmentation of systems by augmented by a chain of integrators

TM02-8

A Passivity-Based Control for a Crane System Without Velocity Measurements

Young I. Son Son, Young-Do Lim, Bu-Gwi Choi(Dong-A Univ., KOREA), Hyungbo Shim(Hanyang Univ., KOREA), Nam H. Jo(Soongsil Univ., KOREA)

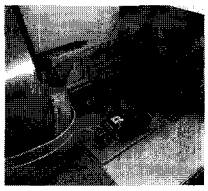
- Contents 1: Introduction to nonlinear crane model
- Contents 2: Passivity of the crane model
- Contents 3: PD-Control based on the passivity
- Contents 4: Global regulation of the system without the velocity measurement
- Contents 5: Simulation studies for the performace test

TM02-9

Development of a Heated Vapor Inhalator Using LQG/LTR

Jaehoon Rhee, Kwangseok Chae, Changwan Jeon, Joonsoo Park(Soonchunghyang Univ., KOREA)

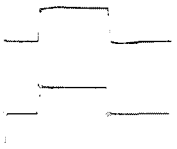
1. Introduction
2. The Localized Aerosol Hyperthermia
3. Hardware Development of a Heated Vapor Inhalator
4. Modeling of the Control System
5. The Design of LQG/LTR Controller
6. Conclusion



TM02-10

Nonlinear adaptive control for multivariable system

Sukheung Song, Sukheung Song(Yonsei Univ., KOREA)



Nonlinear adaptive control for the laboratory pressure-flow model. Control valves are installed on both sides. The pressure and the outlet flow rate are measured. The pressure and outlet flow rate are controlled variables and the control valve stem positions on both sides are the manipulated variables. The variation in both inputs will influence both controlled variables
The control performance is good, in spite of varying valve coefficients of inlet and outlet.

TM02-11

Hybrid sliding mode control for bilinear system with uncertainty

Hae-Jin Jeon, Sung-Young Lee, Bong-Yeol Choi(Kyungpook Nat'l Univ., KOREA)

- Introduction
- Bilinear system model
- Design of sliding control and stability analysis
- Design of proposed controller
- Simulations
- Conclusions
- References

TM02-12

Controller Design for a Piezoelectric Actuator Based on the Inverse Hysteresis Model

Hyun-Sik Ahn(Kookmin Univ., KOREA), Seung-Man Park(Samsung Techwin Co., KOREA)

- Introduction
- Modeling of a Piezoelectric Actuator
- Inverse Hysteresis Modeling and Linearization
- Controller Design: PID plus Repetitive Controller
- Simulation Results
- Conclusion