TM02

Poster Session

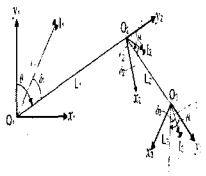
13:30-15:30 **Chair1 : Young I. Son (Dong-A Univ., Korea)**
Room : Base 2nd Floor-Zillertal **Chair2 : Hyun-Sik Ahn (Kookmin Univ., Korea)**

TM02-19

Trajectory Control of Field Robot using H∞ Controller having Disturbance Observer Scheme

Sung su Kim, Jong Hwan Choi(Pusan Nat'l Univ., KOREA), Soon Yong Yang, Byung Ryong Lee, Kyung Kwan Ahn(Univ. of Ulsan, KOREA)

- INTRODUCTION
- MATHEMATICAL MODEL OF EXCAVATOR
- H_INF CONTROLLER BASED ON DISTURBANCE OBSERVER
- SIMULATION RESULTS
- CONCLUSION



TM02-20

Design of Robust Sliding Mode Control for Linear Systems with Mismatched Uncertainties using LMI

Ga-Gue Kim, Sun-Ja Kim, Heung-Nam Kim(ETRI, KOREA)

1. Introduction
2. System description and preliminary results
3. SMC robust to mismatched uncertainties
4. Simulation results
5. Conclusions

TM02-21

New model reduction method and optimized the Smith predictor disign using reduced model

jeoung nae choi, joon ho Cho, Hyung Soo Hwang(Wonkwang Univ., KOREA), Moon Soo Park(Jeonju Tech. College, KOREA)

In this paper, we proposed a control technique that can be applied to various processes. The most of the process can bereduced to second order plus time delay (SOPTD) model. And we proposed improved model reduction algorithm using geneticalgorithm. This method considered four points to reduce the error between original model and reduced model in the Nyquistcurve. And, to compensate time delay, the Smith predictor plus PID controller is adopted. And a new PID tuning algorithm wasproposed, which got from numerical analysis and can be obtained the optimal performance. The PID parameters are obtainedfrom the coefficients and time delay of reduced model. The simulation results show the validity a...

TM02-22

An Indirect Decoupled Adaptive Fuzzy Sliding-Mode Control through width adaptation

dowoo kim, haiwon yang(Hanyang Univ., KOREA), hongsuck han(Daeduk College, KOREA)

- Contents 1. Introduction
- Contents 2. System Description
- Contents 3. Decoupled Sliding Mode Control
- Contents 4. Decoupled Adaptive Fuzzy Sliding Mode Control through width adaptation
- Contents 5. Simulation Result
- Contents 6. Conclusion

TM02-23

Parameters Identification of Gantry Crane By Using ANSYS

Hwan-Seong KIM, Tuong-Long NGUYEN(Korea Maritime Univ., KOREA)

The main purpose of this paper is to identify the important parameters and to examine their relations to one another while gantry crane structure was modeled. The important elements of the structural analysis are included, such as the stiffness matrix and its relations to the degrees of freedom, the displacement, and frequency responses. To investigate these relations, the parametric modeling of a dynamic system is solved by using the finite element method (ANSYS-Program). Furthermore, EXPRESS schema and C-FAR (change favorable representation) are described how to change the frame length of gantry crane which influences other elements. Since this relationship is established, the results may ...

TM02-24

Adaptive Fuzzy Sliding Mode Controller for Nonaffine Nonlinear Systems

Jang-Hyun Park, Dong-Won Kim, Sung-Hoe Huh, Gwi-Tae Park(Korea Univ., KOREA)

- Introduction
- Problem Formulation
- Feedback Linearizing Controller Design
- Fuzzy System to Cancel System Uncertainty
- Adatptive Fuzzy Sliding Mode Controller Design
- Simulations
- Conclusions