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)

TM02-25

Nonlinearity Estimation and Compensation using extended Observer on a dynamics system

rai wung Park, renwei Hu(Daebul univ., KOREA)

In this work a new design approach of nonlinear control is presented based on a extended observer for the estimation and compensation on a dynamics system and the estimates are compared to the effects from neual nets. Simulation's results show that this method tells a good alternative to the standard ways.

TM02-26

Identification and Control of Model Helicopter in Hovering

Duckgee Park, Dong-Hoon Yang, Moon-Soo Park, Suk-Kyo Hong(Ajou Univ., KOREA)

●Introduction
●System Identification
●PD Controller Design
●Verifying the Model & Simulation
●Experiment for Attitude Control
●Results
●Conclusions
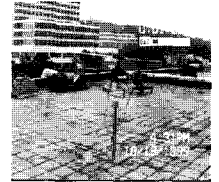
TM02-27

The compensation for network control delay in using two part simulation

sang hoon Bae, Ho Jun Yoo(Inha Univ., KOREA),
Myung Eui Lee(Korea Univ. of Tech. & Edu., KOREA),
Oh Kyu Kwon(Inha Univ., KOREA)

1. Introduction
2. Two Part Simulation
3. Network Induced Delay
4. Plant and Control
5. Simulation
6. Conclusion

TM02-28

An Experimental Application of Observer/Controller Identification Algorithm to the System Identification of Inherently Unstable Systems

Mun-Soo Park, Dong-Hoon Yang, Suk-Kyo Hong
(Ajou Univ., KOREA)

●Closed System Identification for inherently unstable systems
●Application of Obsever/Controller Identification (OCID) algorithm to those systems
●An open-loop system model with corresponding controller and observer gains are identified using OCID
●Experimental example of the OCID algorithm for an inverted pendulum system operating in closed-loop
●Modal analysis and time response to the added distrubance are presented to evaluate the performance of the OCID algorithm

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TM02-29

An Effective Maneuver Detection Strategy with Computational Load Saving

Byeong Wan Ahn, Jae Weon Choi(Pusan Nat'l Univ., KOREA), Taek Lyul Song(Hanyang Univ., KOREA)

In this paper, we are concerned with a maneuver detection algorithm which uses the `lost' measurements down-sampled for computation load saving when a target is in quiescent motion. In general applications of estimation, measurements are available at a relatively high rate, while the estimation processing equipment can only operate at a lower sampling rate. Furthermore, when a target is in nearly quiescent motion, the update of the tracking filter need not to be implemented with maximum process power of the filter since the states of the target vary relatively slowly. This does not give serious degradation on the estimation performance. We consider the maneuver detection problem at the case ...

TM02-30

A Backstepping Design with Sliding Mode Control for Uncertain Discrete System

seung Kyu park, min chan kim , tae won kim , ho kyun Ahn(changwon nat'l univ., KOREA)

The technique of backstepping have can avoid cancellations of useful nonlinearities. It is widely used in nonlinear adaptive control. But it is difficult to use this technique for uncertain nonlinear systems. Sliding mode control has robustness and application with feedback linearization. This paper shows that the robustness can be used for back stepping technique to solve the uncertainty problem and to improve the scalar design problem using Control Lyapunov function which is the motivation of back stepping technique with recursive design for high-order systems. In the respect of SMC, the result of this paper does not need to satisfy the matching condition.