I-SP06

Measurement

13:00 – 13:20   I-SP06-1

Receding Horizon FIR Parameter Estimation for Stochastic Systems

Kwan Ho Lee, Soo Hee Han, Changhun Lee,
and Wook Hyun Kwon
(Seoul National Univ.)

A new time-domain FIR parameter estimation called the receding horizon least square estimation (RHLSE) is suggested for stochastic systems by combining the well-known least square estimation with the receding horizon strategy. It can be always obtained without the requirement of any \textit{a priori} information about the horizon initial parameter. A fast algorithm for the suggested estimation is also presented which is remarkable in the view of computational advantage and simple implementation. It is shown that the proposed estimation is robust against temporary modeling uncertainties due to their FIR structure through simulation studies.

13:20 – 13:40   I-SP06-2

Homogeneous Robust Systems Control On Limitations In The Space State

Vladimir N. Pilishkin
(Bauman Moscow State Technical Univ.)

The new approach of homogeneous robust control systems synthesis, both linear, and nonlinear and non-stationary is offered. The control is carried out, providing the given phase constrains varied in acceptable limits, in view of constrains on its value and incompleteness of the information about functioning disturbances. The approach is based on introduction of auxiliary integral surfaces, on which the initial moving is projected. As a result the reduced equivalent moving is forming, described by the scalar equation which in many important cases can be integrated directly. On the basis of the obtained equation solving of a synthesis task is carried out and can be reduced to algebraic or integral inequalities. The final relations defined for linear equivalent moving are presented.