

SYNTHESIS OF OBSERVER OF EXTENDED STATE VECTOR CONSIDERING REQUIREMENTS FOR CLOSED LOOP OF CONTROL GIVEN IN FREQUENCY DOMAIN

To consider a closed loop of a combined control system, a procedure for the synthesis of an extended state observer is proposed. Requirements for the specified quality and the stability of the closed loop of the control system are formulated in the frequency domain with regard to the spectral properties of disturbances and the sensor noise. The problem of the observer synthesis is solved by the optimization methodology using linear matrix inequalities.

Keywords: *observer, expended state vector, combined regulator, sensitivity function, weighting function.*

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