

## EXOGENOUS DISTURBANCE COMPENSATION WITH STATIC OUTPUT FEEDBACK

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ABSTRACT. A new controller's design procedure devoted to the restriction of the output of the control system, when it is disturbed with bounded perturbations with uncertain spectral properties, is proposed. It is supposed also that norm of controller's gain matrix has to be restricted and the static output feedback uses incomplete measurements of the state space variables. The problem is solved on the basis  $H_2/H_\infty$ -optimization and LMI approach. The efficiency of the design procedure is illustrated with the example of the helicopter stabilization in the hovering mode.

Key words: Linear matrix inequalities,  $H_2/H_\infty$ -optimization, static output feedback, inverse linear quadratic problem, helicopter, stability augmentation system.