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SYNTHESIS AND ANALYSIS OF MODAL CONTROL SYSTEM FOR CRANE MECHANISM MOTION TAKING INTO ACCOUNT THE WORK OF LIFTING MECHANISM

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Abstract

The control system for crane mechanism with feedback over full order state vector is synthesized. This system applied to motions of crane mechanism with load suspended on a flexible rope. In addition, this system taking into account changes of rope length of lifting mechanism when it working. The Luenberger-observer was synthesized for estimation swing

angle and angular speed of this movement. Analysis of designed modal control system was performed with mathematical modelling method. References 4, figures 5.

Key words: modal control, crane, lifting mechanism, Luenberger observer.

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