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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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