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USING THE BLOCK MATRICES IN THE MODELING OF DRIVING AND CONTROL SYSTEM OF HARD DISK DRIVES

ABSTRACT *In the article block matrix theory is employed to model of the branched kinematics chains. It allows for convenient construction of total dynamic matrix of complex branched kinematic system of head positioning system used in hard disk drives, with respect to enlargement of numbers of branches in kinematics chain. It allows giving the general expressions for individual matrix elements (in terms of basic kinematic parameters) before and after it inversion. In chapter 3 the block matrix inversion is discussed and finally in cheapter 4 the exemplary simulation results of time optimal control is presented.*

Keywords: *block matrices, partitioned matrices, hard disk drives, branched kinematic systems, time optimal control.*