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ON THE DUALITY OF MATHEMATICAL MODELS FOR PROBLEMS IN MECHANICS AND IN THE THEORY OF ELECTRICAL CIRCUITS

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Mathematical models of mechanics and the theory of electrical circuits are considered, and a similar dynamic structure is revealed in them. Using basic analogies, a chain of mechanical springs and an equivalent electrical analog are constructed. Examples of “successful” borrowings are given, when the methods of the theory of electrical circuits can be used to solve stabilization problems for a mechanical system formed by a set of interconnected mechanical subsystems.

Keywords: mechanical system, electrical circuit, duality of mechanical and electrical systems, stabilization of interconnected systems.

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