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STABILITY ANALYSIS OF LINEAR CONSTRAINTS NONHOLONOMIC SYSTEMS BASED ON CONSERVED QUANTITY

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Abstract

In this paper, we derive the augmented Birkhoff equation of linear constraints nonholonomic systems firstly. Based on a conserved quantity or a combination of some conserved quantities, we study the stability of linear constraints nonholonomic systems. Finally, a numerical example is provided to demonstrate the potential and effectiveness of the method.

Keywords and phrases: conserved quantity, Birkhoff equation, linear constraints, stability.