

ON PERIODIC SOLUTIONS OF SECOND ORDER DIFFERENTIAL EQUATIONS IN ELEMENTARY WAY

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We consider the model of the swing and the model of the upside-down pendulum. The equations which describe these phenomena are second order differential equations with step-function coefficients. In this talk we show an elementary method for deriving the periodic solutions, that are important to determine the stable and unstable zones on the parameter-plane.

- [1] L. CSIZMADIA, L. HATVANI, On a linear model of swinging with a periodic step function coefficient, *Acta Sci. Math. (Szeged)* **81** (2015), 483–502.