

# REGULATORS FOR NON-AUTONOMOUS VIBRATING MECHANISMS

M. LUPU<sup>1</sup>

F. ISAIA<sup>1</sup>

**Abstract:** *The paper makes an analysis of two speed regulators for a uniform response in the case of some mechanisms with periodic motion. For the first mechanism with one degree of freedom, the conditions for uniform motion are computed in the case where the vibrating mass is a rigid coupling with the elastic and damping forces. For the second mechanism with two degrees of freedom, the vibrating mass is serially tied with the elastic and damping forces. The obtained equations being nonlinear, we apply the averaging method and the Van der Pol method.*

**Key words:** *speed regulator, nonlinear dynamical system, averaging method, Van der Pol method, limit cycle, stable point.*

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\* Transilvania University of Brasov.