

## Nonlinear forced oscillations of the coupled masses between repelling magnets

**Krzysztof Witkowski, Grzegorz Kudra, Sergii Skurativskiy, Grzegorz  
Wasilewski, Jan Awrejcewicz**

*Abstract:* In these studies we consider oscillations in the physical model consisting of two carts mounted on a guide. The movement of these carts is restricted by the repelling magnets. The interaction between carts is provided by spring or impact element. The harmonic external loading is applied to one of the carts. To describe this system, the nonlinear mathematical model is developed. The results of model parameter identification are presented. Moreover, the procedure of model validation on the bases of experimental and numerical analysis of system dynamics is discussed as well.

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<sup>1)</sup> Krzysztof Witkowski, M.Sc. (Ph.D. student): Lodz University of Technology, Stefanowskiego 1/15, 90-924, Lodz, Poland (PL), krzys\_wit@wp.pl.

<sup>2)</sup> Grzegorz Kudra, Associate Professor: Lodz University of Technology, Stefanowskiego 1/15, 90-924, Lodz, Poland (PL), grzegorz.kudra@p.lodz.pl.

<sup>3)</sup> Sergii Skurativskiy, Associate Professor: Subbotin Institute of Geophysics, Palladin av. 32, Kyiv, Ukraine (UA), skurserg@gmail.com.

<sup>4)</sup> Grzegorz Wasilewski, Ph.D.: Lodz University of Technology, Stefanowskiego 1/15, 90-924, Lodz, Poland (PL), grzegorz.wasilewski@p.lodz.pl.

<sup>5)</sup> Jan Awrejcewicz, Professor: Lodz University of Technology, Stefanowskiego 1/15, 90-924, Lodz, Poland (PL), jan.awrejcewicz@p.lodz.pl.