

ABSTRACTS

operation of tensometric flex sensors, and the second on the verification of indications of an orientation sensor.

CONCLUSION

The verification tests determined the hysteresis of tensometric sensors and a mean-square error as well as a correlation coefficient between different system orientation values measured by means of various measuring systems. The verification enabled the determination of uncertainty of parameters measured as well as functionality of the device.

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DOUBLE PHYSICAL PENDULUM WITH MAGNETIC INTERACTION

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KEYWORDS

Magnetic and mechanical system; Double pendulum; Magnets; Experiment and construction

INTRODUCTION

The paper is devoted to experimental investigations of a system consisting of a double physical pendulum with magnetic interaction caused by a pair of permanent magnets repelling each other – one mounted on the end of a second link of a pendulum and one mounted in the body of the setup. To the experimental rig of double physical pendulum system with the first body periodically forced a constructed magnetic interaction forces measurement system is added.

The work consists of investigation how magnetic interaction forces depend on pendulum's links relative angle. Constructed measurement system consists of two links shafts encoders and one force sensor – extensometer beam with an output signal's amplifier. Three analog signals are read by acquisition device, sent to connected PC and processed in LabVIEW measurement software programs.