ABSTRACTS

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GEARBOX LUBRICATION SYSTEM OPTIMIZATION
(pages 21-24)

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Keywords: spur gear, bevel gear, lubrication, optimization
Abstract: The aim of gearbox lubrication is to reduce wear on the sides of the teeth, increase of the efficiency by reducing friction as well as dissipating the heat generated by friction. Lubrication of gearboxes is a discontinuous process, that means, during the meshing every meshed pair of teeth needs to have a new lubrication film created on the surfaces. The geometric shape of the sides of the teeth is conditioned by rolling and sliding movement, therefore gears often work under a mixed friction condition. This is confirmed by damage to gearboxes and by measured power losses. This contribution is devoted to the issue of innovation of the original lubrication of the first stage of the bevel helical gearbox used for the drive of the rope drum.

KINEMATIC ANALYSIS OF THE INDUSTRIAL ROBOT EFFECTOR
(pages 25-28)

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Keywords: kinematic analysis, transformation matrix, joint, arm of robot, effector
Abstract: The technical level of industrial robots and manipulators is rapidly increasing, thus supporting the expansion of their application space. The requirements of the industry are various special manipulations with objects, guiding the end effector of the robot along the prescribed trajectory at a given speed while maintaining the angular position and orientation of the object. The paper presents a survey of a robot with a kinematic scheme formed by an open kinematic chain with revolute joints.