ABSTRACTS

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PROPOSAL OF UNIVERSAL COMMUNICATION SYSTEM FOR SERVICE ROBOTS

(pages 1-5)

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Keywords: service robot, wireless control, teleoperator
Abstract: Area of service robotics is characterized by increasing amount of device which is defined to perform various tasks. In most of cases the service robots are controlled remotely from an operations centre at performing their tasks. In order to control robot an operator has available special drivers or software on computer that allows the control of only certain devices. This article deals with the design of the communication channel, which will be used as the basis for creating a universal tool for remote control of service robots of various kinds. This article focuses on the description of the data structures needed for the transmission of specific data in two-way communication.

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PRINCIPLES OF MASTERING AT KUKA ROBOTS

(pages 7-12)

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Keywords: KUKA robot, mastering, measurement, SEMD
Abstract: Every robot must be mastered. Only if the robot has been mastered can it move to programmed positions and be moved using Cartesian coordinates. During mastering, the mechanical position and the electronic position of the robot are aligned. For this purpose, the robot is moved to a defined mechanical position, the mastering position. The encoder value for each axis is then saved. The mastering position is similar, but not identical, for all robots. The exact positions may even vary between individual robots of a single robot type.

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NON-DESTRUCTIVE INVESTIGATION OF FLEXURAL PROPERTIES OF CIRCULAR METAL AND PLASTIC HOOPS – - BY MEANS OF DOUBLE FLYWHEELS METHODS

(pages 13-18)

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Keywords: flexural properties, tensile modulus, horizontal and vertical oscillation flywheel sets, thin metal and plastic hoops, non-destructive methods
Abstract: We have suggested a new non-destructive method for measuring of tensile modulus of circular and hoop samples – by means of vertically oriented flywheel set. We had performed a theoretical analysis of its operation and we carried out the testing measurements of simple metal and plastic samples. The results being achieved are compared with the analogous values obtained using the horizontal device.