

SLIPPING SENSOR WITH ROLLERS AND TENSOMETER DETECTION

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Key words: robotics, sensors , slipping, gripper.

The object mobility, as part of the grippers represents all important parameter for gripping evaluation. As it is known, more impose the gripping quality factors, namely: material nature of the object, that it follows to be manipulated; the weight of the gripped object; the displacement velocity from the kinematics pairs of the robot; the answering velocity and the efficiency of the braking systems that equip the command system; the type of slipping detection from the grippers.

The slipping sensors with rollers can only determine the slipping of the gripped object on the rotation axis of the rollers, so on one direction, as part of a gripper, there can be used spheres or rollers. The paper presents a slipping sensor with rollers (with spheres), with rollers and with tensometer detection of the slipping, that allows the slipping detection on two directions as part of the gripper.

The object mobility will induce the rotation or the rolling of the roller or of the sphere, with out slipping. The amplitude of the motion defines the slipping proportion of the object in the gripper. The use of the force sensors for the achievement of slipping sensors can contribute to the obtaining of a high Figure 1 presents the kinematics scheme of a slipping sensor with tensometer detection of the slip [3]. The main elements of the slipping sensor with detection tensometer - that are presented by this paper - are (fig. 1): 1 - the cylindrical rolls, 2 -the shafts equipped with driving forks; 3 -the elastic element of the stress sensor; 4 -the fixing element of the stress sensor; 5 -the gripped object; TER 1 ... TER4 -the tensometers.

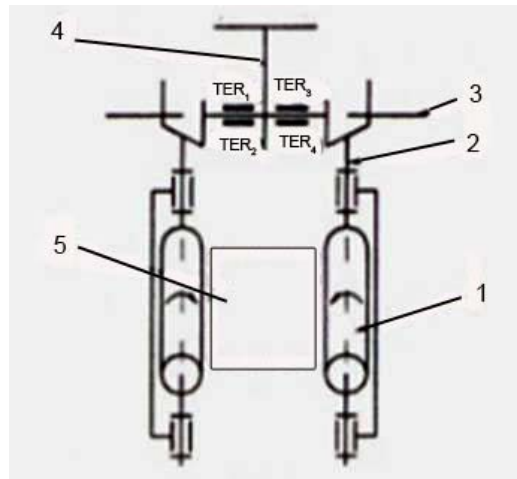


Fig.1 Slipping sensor with rollers and tensometer diction

4. REFERENCES

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