World Academy of Science, Engineering and Technology
International Journal of Mathematical and Computational Sciences
Vol:15, No:01, 2021

Definition of Service Angle of Android'S Robot Hand by Method of Small Movements of Gripper'S Axis Synthesis by Speed Vector

Authors : Valeriy Nebritov

Abstract : The paper presents a generalized method for determining the service solid angle based on the assigned gripper axis orientation with a stationary grip center. Motion synthesis in this work is carried out in the vector of velocities. As an example, a solid angle of the android robot arm is determined, this angle being formed by the longitudinal axis of a gripper. The nature of the method is based on the study of sets of configuration positions, defining the end point positions of the unit radius sphere sweep, which specifies the service solid angle. From this the spherical curve specifying the shape of the desired solid angle was determined. The results of the research can be used in the development of control systems of autonomous android robots.

Keywords : android robot, control systems, motion synthesis, service angle
Conference Title : ICDGBC 2021 : International Conference on Differential Geometry, Bundles and Connections
Conference Location : Singapore, Singapore
Conference Dates : January 11-12, 2021