



Error Analysis And Compensation Method Of 6-axis Industrial Robot

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Abstract : A method of compensation is proposed based on the error model with the robot's parameters of kinematic structure and the joint angle. Using the robot kinematics equation depending on D-H algorithm, a kinematic error model is deduced relative to the end actuator of the robot, a comprehensive compensation method of kinematic parameters' error by mapping structural parameters to the joint angular parameter is proposed. In order to solve the angular error problem in the compensation process of each joint, designs a set of robot's kinematic parameter compensation experiment based on the joint angle's correction. The experimental results verify the effectiveness of the presented method. Besides, puts forward that the main factor of the dynamic error is the deformation of the connecting rods. Software compensation way is analyzed in the paper.

Index terms : Industrial robot, error model, error compensation, joint angle correction.