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Project Title : Telerobotic Using Delta Robot
Major Field : Mechatronics Engineering
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Abstract

This project is a development of tele-operate in industrial robot. In this project must use industrial robot for work in a far work space. It is robot type 6 axis ABB and robot for work with operator is a Delta robot. For achieve objective must be designed and made the Delta robot. Which a designing and made robot 3 axis Delta type. Must be knowledge from many subject for example designing robot using Computer Aided Designed (CAD), Analyzed strength of material using Computer Aided Engineering (CAE), Producing work piece using Computer Aided Manufacturing even though programing using C# language combination with image processing.

Work of the project can control the robot by connecting the communication with the robot remotely ABB and use image processing for find value of position depth of object in long range for the systems have known. When operator move the end of Delta robot the three servo motor relative work by Delta robot will send data in degree of the servo motor. Can which read from encoder and the degree to the Forward Kinematics equation program will convert to position X Y Z for send to robot ABB making the robot ABB relate with Delta robot motion. When ABB robot motion to bump the object image processing can tell the position to system known since first run. It cause reaction at Delta robot which the reaction depend on the hardness of the material the ABB robots to bump or push.

The result of experiment can control robot in long range by using industrial robot can which good motion but still have an error of Delta robot because there is still some noise to make the reading position Delta robots miss sometimes.