

STUDY ON PARALLEL ROBOTS AND ITS APPLICATIONS

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Abstract

Mechanical systems that allow a rigid body (here called an end-effector) to move with respect to a fixed base, play a very important role in numerous applications. A rigid body in space can move in various ways, in translation or rotary motion. These are called its degrees of freedom. The total number of degrees of freedom of a rigid body in space cannot exceed 6 (for example three translatory motions along mutually orthogonal axes, and three rotary motions around these axes). As soon as it is possible to control several degrees of freedom of the end-effector via a mechanical system, this system can be called a robot. The last few years have witnessed an important development in the use of robots in the industrial world, mainly due to their flexibility. Since now a day's parallel robots have been popularized because of their high structural stiffness, accuracy and high load carrying capacity, In this paper I deals in brief about parallel robots and its applications.

Keywords : Mechanical systems, rigid body, end-effector, degrees of freedom, stiffness.