

Preliminary Design and Simulation of a Multi-DOF parallel manipulator

Abstract

This project work deals with preliminary design and analysis a multi-DOF parallel manipulator to achieve greater end-effector trajectory tracking accuracy while handling a task remotely. A parallel manipulator is capable of moving in three linear directions and three angular directions singly or in any combination. It comprises a triangular plane called the platform, of which each of the three corners is connected through a three-axis joint to one of three legs. Each leg is connected to the abutment by a two-axis joint. The aim of this project is to work on a supplied concept of the manipulator and conceptualize it further.

Scope of Work:

Preliminary design and modeling of the parallel manipulator, actuator system, and fabrication of manipulator structure. The conceptual model of a parallel manipulator has been developed by the RHRTD division and will be supplied as an input for this work.

Project duration: 04-06 months

Number of Students: 01 (max)

Eligibility: Only students of B.E./B.Tech (Mechanical/ Mechatronics) branches can submit their application at following email addresses

Preference: Student should have exposure of CAD modeling and Analysis software.

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