

عنوان مقاله:

Dynamic Analysis of A Redundantly Actuated Parallel Manipulator:A Virtual Work Approach

محل انتشار:

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نویسندگان:

Hamid Taghirad - *Dynamic Analysis of A Redundantly Actuated Parallel Manipulator:A Virtual Work Approach*

.Meyer Nahon - *Center for Intelligent Machines (CIM), Department of Mechanical Engineering, McGill University*

خلاصه مقاله:

In this paper the dynamic analysis of a parallel manipulator is studied in detail, The manipulator architecture is a simplified planar version adopted from the structure of Large Adaptive Reflector (LAR), the Canadian design of next generation giant radio telescopes, This structure uses a parallel redundant manipulator actuated by cables. In this paper first, the governing dynamic equation of motion of such structure is derived using the principle of virtual work. Next, the dynamic equations of the system are used in simulations. In these simulations it is observed that the limb inertial forces contribute only 10% of the dynamical forces required to generate a typical trajectory, and moreover, the total dynamical forces contribute in only 70% of experimentally measured disturbance forces.

کلمات کلیدی:

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