Inertia Parameters Estimation of Parallel Kinematic Manipulators Using Combined Particle Swarm Optimization and Generali

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ABSTRACT

The parallel organization machine, is different with the traditional organization machine to open the return route structure, but is the loop circuit organization, the structure load streamline is short, has the high rigidity, the organization simple, the cost low, carries on the high-speed cutting, the high to feed, also may depend on the demand to be possible the elastic combination and disassembling, at present also has become the new generation machine which each advanced industrial nation devotes to develop. Because therefore, the load change as well as the mass inertia indefinite produces for the precise simulation the dynamic response, the precise dynamic equation inferential reasoning has its necessity. Therefore this article proposed take the Stewart parallel organization as the foundation, Lagrange of method the use Absolute coordinate system infers its movement equation, and coordinates the Newton calculating method by the PSO calculating method to distinguish when connecting rod of length the parallel machine error has the minimum value, its organization quality and mass inertia estimated value.

Keywords : Parallel platform ; inertia recognition

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