

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

Table of Contents

授權書 iii	中文摘要 iv	英文摘要 v	誌謝 vi	目錄 vii	圖目錄 x	表目錄 xii	符號說明 xiii	第一章 緒論 1	1.1 前言 1	1.2 文獻回顧 2	1.3 研究動機與目的 4	第二章 並聯式平台之機構與運動方程式 5	2.1 史都華平台之機構 5	2.2 座標系統定義 7	2.3 座標轉換 9	2.4 動能 9	2.5 位能 12	2.6 拘束方程式與虛功原理 13	2.6.1 拘束方程式 13	2.6.2 虛功原理 14	2.7 Stewart並聯式平台之運動方程式 15	2.8 速度轉換矩陣 17	2.9 廣義座標之運動方程式 18	2.10 數值演算法 19	第三章 慣性識別 20	3.1 粒子群優化演算法簡介 20	3.2 PSO演算法 21	3.3 PSO演算法在慣性識別之應用 22	3.4 牛頓演算法簡介 24	3.5 牛頓演算法 25	3.6 牛頓演算法在慣性識別之應用 27	3.7 結合PSO演算法與牛頓演算法 29	第四章 成果與討論 30	4.1 運動平台座標轉換 30	4.2 模擬結果 33	4.2.1 演算法之比較 34	4.2.2 演算法之比較 41	4.2.3 演算法之比較 48	4.2.4 演算法之比較 55	4.3 成果討論 62	第五章 結論 63	5.1 結論 63	5.2 未來展望 63	參考文獻 65	圖目錄	圖2.1 史都華平台結構圖 6	圖2.2 史都華之座標與位置向量定義 8	圖3.1 粒子群迭代示意圖 21	圖3.2 PSO迭代流程圖 24	圖3.3 牛頓法迭代過程 26	圖3.4 牛頓演算法迭代流程圖 28	圖3.5 PSO +牛頓演算法迭代流程圖 29	圖4.1 尤拉角 30	圖4.2 Stewart俯視圖 31	圖4.3 活動平台之位置變化 35	圖4.4 活動平台之角位移變化 36	圖4.5 活動平台之速度變化 37	圖4.6 活動平台之角速度變化 38	圖4.7 連桿之位置變化 39	圖4.8 連桿之速度變化 40	圖4.9 活動平台之位置變化 42	圖4.10 活動平台之角位移變化 43	圖4.11 活動平台之速度變化 44	圖4.12 活動平台之角速度變化 45	圖4.13 連桿之位置變化 46	圖4.14 連桿之速度變化 47	圖4.15 活動平台之位置變化 49	圖4.16 活動平台之角位移變化 50	圖4.17 活動平台之速度變化 51	圖4.18 活動平台之角速度變化 52	圖4.19 連桿之位置變化 53	圖4.20 連桿之速度變化 54	圖4.21 活動平台之位置變化 56	圖4.22 活動平台之角位移變化 57	圖4.23 活動平台之速度變化 58	圖4.24 活動平台之角速度變化 59	圖4.25 連桿之位置變化 60	圖4.26 連桿之速度變化 61	表目錄	表4.1 個別演算法之比較 34	表4.2 個別演算法之比較 41	表4.3 個別演算法之比較 48	表4.4 個別演算法之比較 55
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