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[73] Proprietor 專利所有人
The Hong Kong Polytechnic University Shenzhen Research
Institute
CHINA
香港理工大學深圳研究院
中國內地/中國
南山區高新園南區
粵興一道 18 號
香港理工大學產學研大樓 205 室
[72] Inventor 發明人
JING, Xingjian 景興建
SUN, Bo 孫博
[74] Agent and / or address for service 代理人及/或送達地址
中一聯合國際知識產權有限公司
香港九龍
尖沙咀漆咸道南 45-51 號
其士大廈 803 室

[54] IMITATION LEG TYPE VIBRATION ISOLATOR BASED ON AN X-TYPE STRUCTURE 基於 X 型結構的仿腿型隔振裝置

[57] The utility model relates to the technical field of vibration isolation device, and more particularly to an imitation leg type vibration isolator based on an X-type structure, comprising a lower base, an upper platform and a vibration isolation unit, the vibration isolation unit including a bottom linkage group hinged to the bottom base, a top linkage group hinged to the top of the upper platform, and an intermediate linkage group hinged between the bottom linkage group and the top linkage group, the end of the linkage of the intermediate linkage group, the end of the linkage of the bottom linkage group, and the end of the linkage of the top linkage group are hinged to form an X-shaped structure, the X-shaped structure has a plurality of hinges at the end of the linkage, and the vibration isolating unit further comprises a bi-directional elastic member extending between the hinges of the ends of a pair of the linkages. The utility model has the advantages of high static and low dynamic characteristics (namely high load capacity and low resonance frequency), and has three advantages of passive vibration isolation, low cost, easy maintenance and good effect, which can be applied to the field of automobile, aviation and so on, greatly expand the application of the imitation leg type vibration isolator based on an X-type structure.

本實用新型涉及隔振裝置技術領域，尤其涉及基於 X 型結構的仿腿型隔振裝置，包括下基座、上平臺及隔振單元；隔振單元包括鉸接於下基座的底端連杆組、鉸接於上平臺的頂端連杆組及連接於底端連杆組與頂端連杆組之間的中間連杆組，底端連杆組的連杆末端、中間連杆組的連杆末端及頂端連杆組的連杆末端依次鉸接形成 X 型結構，X 型結構具有若干對連杆末端的鉸接處，隔振單元還包括拉伸連接於其中一對連杆末端的鉸接處之間的雙向彈性件。本實用新型具有高靜低動特性（即高承載能力和低共振頻率）；同時具有三個自由度被動隔振、低成本、易維護，效果好的優點，可應用於汽車、航空、大型結構等領域，極大的擴展了基於 X 型結構的仿腿型隔振裝置的應用範圍。

