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Industrial robots - Dynamic stability test methods

工业机器人 动态稳定性试验方法

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

Please note that some of the contents of this document may involve patents. The issuing organization of this document does not assume the responsibility for identifying patents.

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This document was drafted by: Chongqing Kairui Robotics Technology Co., Ltd., Shenzhen Yuejiang Technology Co., Ltd., Chongqing Kairui Certification Services Co., Ltd., KUKA Robotics (Guangdong) Co., Ltd., Zhejiang PUMA Technology Co., Ltd., Beijing Institute of Automation of the Mechanical Industry Co., Ltd.

Shenzhen Dazuo Robotics Co., Ltd., Chongqing Institute of Green Intelligent Technology, Chinese Academy of Sciences, China Software Evaluation Center (Industrial and Information Software and Integrated Circuit Promotion Center of the Ministry of Information Industry), Harbin Keneng Fusion Technology Co., Ltd., Chongqing University, Chengdu Yuefan Innovation Technology Co., Ltd.

Company, Dongguan Erbiti Robotics Co., Ltd., Ningbo City Vocational and Technical College, Zhongkong Zhidong (Shandong) Machinery Technology Co., Ltd., Huasheng Control Intelligent Technology (Guangdong) Co., Ltd., Guangdong Midea Electric Co., Ltd., Meizhou Dingtai Circuit Board Co., Ltd., Nanjing Panda Electronic Equipment Co., Ltd.

Co., Ltd., Chongqing Jinshan Medical Robot Co., Ltd., Changzhou Inspection and Testing Standards Certification Institute, KUKA Robotics Manufacturing (Shanghai) Co., Ltd.

Co., Ltd., Wuba Intelligent Technology (Hangzhou) Co., Ltd., Aobo (Beijing) Intelligent Technology Co., Ltd., Chongqing Intelligent Robotics Research Institute, Efort Intelligent Equipment Co., Ltd., Shenyang Siasun Robot Automation Co., Ltd., Shanghai Robotics Industry Technology Research Institute Co., Ltd., Shanghai Electric Science Research Institute (Group) Co., Ltd., Shenyang Institute of Automation, Chinese Academy of Sciences, Fujian Special Equipment Inspection Institute, State Grid Chongqing Electric

Power Company Electric Power Research Institute, China Automotive Testing Technology Co., Ltd., Chongqing Quality and Standardization Research Institute, Industry and Information The Fifth Electronic Research Institute of the Ministry of Information and Chemistry, Shandong Jinshi Robot Intelligent Technology Co., Ltd., Zhejiang Junrui Intelligent Equipment Co., Ltd., Chongqing Sandianzhi Energy Technology Co., Ltd., Hebei University of Technology, Chongqing Industrial Vocational and Technical College, Chongqing Changan Automobile Co., Ltd., Chongqing Jiaotong University, Chongqing University of Posts and Telecommunications, Chongqing Mengxun Electronic Technology Co., Ltd., Qingdao Changhui Marine Intelligent Equipment Co., Ltd., Ningbo Lemon Robot Co., Ltd. company.

The main drafters of this document are: Li Benwang, Liu Peichao, Gong Xuyin, Li Jiantao, Zhang Xiang, Li Jincun, Wang Guangneng, Shang Mingsheng, Liang Xuexiu, Wang Kun, Su Xiaojie, Xie Rufeng, Lang Xulin, Sun Tianfei, Sun Xun, Zhou Xingyu, Qing Maorong, Ye Hongwu, Zhao Fengrui, Chen Dunjian, Chen Wenjie, Yan Hongsheng, Tang Chenyu, He Guotian, Li Hui, Xiang Xuwei, Li Songling, Huang Yu, Li Zheng, Qu Yechuang, Liang Yingjie, Wang Maolin, Wu Xianhuan, Zhao Jian, Yuan Jiahu, Xia Yunqi, Wei Dapeng, Zhang Guoliang, Song Zhongkang, Huang Wei, Zhang Xiaoyu, Chu Zhaoqi, Zhang Feng, Xing Lin, Zhu Xiaopeng, Li Zhihai, Sun Liangyan, Chen Tingmu, Wang Qian, Liu Xiong, Cao Yisha, Wang Jiayi, Vanke, Dong Chengju, Zhao Guohua, Li Ming, Xia Liang, Wang Jia, Peng Peng, Zhou Chuande, Chang Yongsheng, Chen Renxiang, Li Shuaiyong, Chen Jing, Wang Yuqin, Wan Xucheng, Liu Yuchang, and Zhao Yonglei.

Dynamic stability test method for industrial robots

1 Scope

This document describes the test method for the dynamic stability of industrial robots.

This document applies to dynamic stability tests of industrial robots.

2 Normative references

GB/T 12643

3 Terms and definitions

The terms and definitions defined in GB/T 12643 and the following apply to this document.

3.1 Dynamic stability

During the robot's movement, it is affected by its own vibration and external disturbances, and maintains stability under the action of automatic adjustment and control devices. The ability to run.

3.2 Vibration

The short-term deviation of a robot's position from its ideal trajectory at a specific moment during its motion.

3.3

The frequency at which the end jitter amplitude is the largest during the entire process of the robot starting from a static state and performing a motion involving all joints until it stops.

3.4

The maximum displacement of the robot's end jitter during the entire process of the robot starting from a static state and performing a motion involving all joints to stopping.

Note. The terminal jitter amplitude is expressed as peak-to-peak value.

3.5

The maximum displacement of the robot's end jitter after it enters the threshold band for the last time.

Note. The jitter amplitude of the stop point is expressed in peak-to-peak value.

4.1 Test prerequisites

The robot should be fully assembled and operational. All necessary leveling operations, adjustment steps and functional tests should be completed.