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Brief Introduction

Xincheng Tian is currently a professor and vice dean of Center for Robotics Research at Shandong University. He received his Ph.D. degree from Nanjing University of Aeronautics & Astronautics in 2000, and the B.S. degree from Shandong University of Technology in 1993. From April 2006 to April 2007, he was with the Department of Mechanical and Mechatronics Engineering, University of Waterloo, Canada, as a Visiting Scholar. From Sept. 2008 to Sept. 2009, he was with the Department of Mechanical and Aerospace Engineering, Seoul National University, South Korea, as a Visiting Scholar.

He has presided over more than 20 various projects from state, provincial and industries, and has been awarded 7 provincial and ministerial level awards, and 28 patents. He has published more than 60 academic papers in international and domestic academic journals and international conferences, more than 30 papers were included by SCI/EI.

Research Interests

- Robotics
- Mechatronics
- Advanced motion control
- Computer-Numerical-Control (CNC)
- Cutting & welding automation
- AI techniques in manufacturing
- AI based industrial big data analysis

Selected/Recent Publications

1. Liu Yan, Liu Ya, Tian Xincheng*, Trajectory and velocity planning of the robot for sphere-pipe intersection hole cutting with single-Y welding groove. Robotics and Computer-Integrated Manufacturing, 56 (2019) 244-253. (SCI/EI)

2. Liu Yan, Liu Jiang, Tian Xincheng*, An approach to the path planning of intersecting pipes weld seam with the welding robot based on non-ideal models. *Robotics and Computer-Integrated Manufacturing*, 55 (2019) 96-108. (SCI/EI)
3. Yan Liu, Lei Shi, Xincheng Tian*, Deviation quantification of the intersecting curve weld seam based on non-ideal models. *The International Journal of Advanced Manufacturing Technology*, (2018) 97:1347-1361. (SCI/EI)
4. Xiaolong Xu, Xincheng Tian*, Lelai Zhou, A Robust Incremental-Quaternion-Based Angle and Axis Estimation Algorithm of a Single-Axis Rotation Using MARG Sensors. *IEEE ACCESS. VOLUME 6*, 2018. (SCI/EI)
5. Xiaolong Xu, Xincheng Tian, Lelai Zhou*, Yibin Li, A Decision-tree Based Multiple-model UKF for Attitude Estimation Using Low-cost MEMS MARG Sensor Arrays. *Measurement*. 135 (2019) 355-367. (SCI/EI)
6. Yan Liu, Lei Shi, **Xincheng Tian***. Weld seam fitting and welding torch trajectory planning based on NURBS in intersecting curve welding. *Int J Adv Manuf Technol*, 2018, 95(5-8):2457-2471. (SCI/EI)
7. Yan Liu, Lei Shi, **Xincheng Tian***. Plasma cutting torch trajectory planning for main pipe hole cutting with welding groove and root face. *Int J Adv Manuf Technol*, 2017, 93(9-12):4329-4343. (SCI/EI)
8. Lei Shi, **Xincheng Tian***, Plasma beam radius compensation-integrated torch path planning for CNC pipe hole cutting with welding groove. *International Journal of Advanced Manufacturing Technology*. 2017, 88:1971-1981. (SCI/EI)
9. Lei Shi, **Xincheng Tian***, Chenghui Zhang, Automatic programming for industrial robot to weld intersecting pipes, *International Journal of Advanced Manufacturing Technology*, 2015, 81(9): 2099-2107. (SCI/EI)
10. Lei Shi, **Xincheng Tian***, Automation of main pipe-rotating welding scheme for intersecting pipes, *International Journal of Advanced Manufacturing Technology*, 2015, 77(5): 955-964. (SCI/EI)
11. Tiantian Chen, **Xincheng Tian***, Dimensional error prediction and its intelligent soft pre-compensation in batch manufacture, *International Journal of Advanced Manufacturing Technology*, 2015 77(1): 281-288. (SCI/EI)
12. Tiantian Chen, **Xincheng Tian***, An intelligent self-learning method for dimensional error pre-compensation in CNC grinding, *International Journal of Advanced Manufacturing Technology*, 2014, 75(9): 1349-1356. (SCI/EI)
13. Tiantian Chen, **Xincheng Tian***, Yan Li, Dimensional accuracy enhancement in CNC batch grinding through fractional order iterative learning compensation, *Advances in Mechanical Engineering*, 2014, 2014(8):1-9. (SCI/EI)
14. Tiantian Chen, **Xincheng Tian***, A methodology for dimensional error intelligent compensation in indexable insert grinding, *ICIC Express Letters, Part B: Applications*. 2014, 5(5): 1199-1205. (EI)
15. Tiantian Chen, **Xincheng Tian***, Yan Li, Intelligent dimensional error pre-compensation in CNC grinding using iterative learning approach, *International Journal of Advanced Manufacturing Technology*. 2013, 67(5):1825-1832. (SCI/EI)
16. Yan Lü, **Xincheng Tian***, Jun Liang, Track Control in Automated Welding of Saddle Curve, *Journal of Scientific & Industrial Research*. 2010, 69(11):811-817. (SCI)
17. **Xincheng Tian***, J. P. Huissoon, Qing Xu, Bo Peng, Dimensional error analysis and its intelligent pre-compensation in CNC grinding, *International Journal of Advanced Manufacturing Technology*, 2008, 36(1): 28-33. (SCI/EI)