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| **實驗室：光電感測與精密量測實驗室** | |
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| **研究領域：**精密量測、工具機幾何誤差量測系統設計、工具機自動化線上量測技術、自動化光學檢測技術(AOI)、光學量測系統設計、精密計量學 | | | |
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| **學術榮譽** | | | |
| 參加2019第八屆中興大學『精密工具機與智慧化技術』專題實作競賽暨程泰集團「精密工具機與智慧化技術」專題實作獎，榮獲「第三名」 (2019.10.05)。參加「鴻海科技獎」，榮獲「特色研究獎」 (2019.1.8)。參加「2018 全國大專院校產學創新實作競賽」，入圍 機械與自動化組 決賽 (2018.11.22)。發表於「Proceedings of 2018 IEEE International Conference on Advanced Manufacturing」之一文「Measurement of six-degree-of-freedom geometric error for a machine tool (T180004)」，榮獲「BEST CONFERENCE PAPER AWARD」 (2018.11.16)。參加2018第七屆中興大學『精密工具機與智慧化技術』專題實作競賽暨程泰集團「精密工具機與智慧化技術」專題實作獎，榮獲「第二名」 (2018.10.20)。參選「2017全國製造工程研討會論文獎」(論文: 可同時量測六自由度幾何誤差的長行程線軌量測系統)，榮獲「優等獎」 (106.11.18)。 | | | |
| **期刊論文** | | | |
| 1. C. M. Jan, C. L. Chen, **Y. T. Chen**, and C. S. Liu, “Optical interference system for simultaneously measuring refractive index and thickness of slim transparent plate,” Optics and Lasers in Engineering, Accepted 2021 (**SCI, Impact Factor: 4.273, Rank: 15/97**) OPTICS. 2. **陳昱達**\*, 劉建聖, “五軸工具機旋轉軸六自由度幾何誤差量測與補償,” 量測資訊, 191期, pp. 15-23, 2020. 3. **Y. T. Chen**, P. More, C. S. Liu and C. C. Cheng, “Identification and compensation of position-dependent geometric errors of rotary axes on five-axis machine tools by using a touch-trigger probe and three spheres,” The International Journal of Advanced Manufacturing Technology, vol. 102, pp. 3077-3089, 2019 (**SCI, Impact Factor: 2.633, Rank: 25/50**) ENGINEERING, MANUFACTURING. 4. **Y. T. Chen**, P. More and C. S. Liu, “Identification and verification of location errors of rotary axes on five-axis machine tools by using a touch-trigger probe and a sphere,” The International Journal of Advanced Manufacturing Technology, vol. 100, pp. 2653-2667, 2019 (**SCI, Impact Factor: 2.633, Rank: 25/50**) ENGINEERING, MANUFACTURING. 5. C. S. Liu, Y. F. Pu, **Y. T. Chen** and Y. T. Luo, “Design of a measurement system for simultaneously measuring six-degree-of-freedom geometric errors of a long linear stage,” Sensors, vol. 18, pp. 3875, 2018 (**SCI, Impact Factor: 3.275, Rank: 15/64**) INSTRUMENTS & INSTRUMENTATION. 6. C. S. Liu, Z. Y. Wang, and **Y. T. Chen**, “Novel system for simultaneously measuring the thickness and refractive index of a transparent plate with two optical paths,” Applied Physics B, vol. 124, no. 9, pp. 180, 2018. (**SCI, Impact Factor: 1.817, Rank: 58/94**) OPTICS. 7. C. L. Hsieh, Y. H. Chang, **Y. T. Chen**, and C. S. Liu, “Design of VCM actuator with L-shape coil for smartphone cameras,” Microsystem Technologies, vol. 24, no. 2, pp. 1033-1040, 2018 (**SCI, Impact Factor: 1.737, Rank: 162/266**) ENGINEERING, ELECTRICAL & ELECTRONIC. 8. **Y. T. Chen**, W. C. Lin, and C. S. Liu, “Design and experimental verification of novel six-degree-of freedom geometric error measurement system for linear stage,” Optics and Lasers in Engineering, vol. 92, pp. 94-104, 2017 (**SCI, Impact Factor: 4.273, Rank: 15/97**) OPTICS. 9. 張隆武, 方彥博, 劉建聖, **陳昱達**, 林威辰, “雷射源微型精密構裝與檢測技術應用,” 機械工業雜誌, 407期, pp. 16-28, 2017. 10. **Y. T. Chen**, Y. S. Huang, and C. S. Liu, “An optical sensor for measuring the position and slanting direction of flat surfaces,” Sensors, vol. 16, no. 7, pp. 1061-1-1061-13, 2016 (**SCI, Impact Factor: 3.275, Rank: 15/64**) INSTRUMENTS & INSTRUMENTATION. | | | |
| **研討會論文** | | | |
| 1. **Y. T. Chen**, T. H. Hsieh, P. E. Hsu and J. R. Chen, “A Novel and Robust Geometric Errors Measurement Method for a Swiveling Rotary Table by Using a Self Tracking Laser Interferometer,” The International Multi-Conference on Engineering and Technology Innovation (IMETI 2020), B203 (Taichung, Taiwan, October 23-27, 2020). 2. T. H. Hsieh, K. Y. Huang, J. W. Huang, **Y. T. Chen** and P. E. Hsu, “A New Angular Method for Measuring Position Error of Rotary Axis,” The International Multi-Conference on Engineering and Technology Innovation (IMETI 2020), J225 (Taichung, Taiwan, October 23-27, 2020). 3. T. H. Hsieh, J. W. Huang, K. Y. Huang, **Y. T. Chen** and P. E. Hsu, “Rotray Encoder Calibration,” The International Multi-Conference on Engineering and Technology Innovation (IMETI 2020), J224 (Taichung, Taiwan, October 23-27, 2020). 4. T. H. Hsieh, J. R. Chen, **Y. T. Chen** and P. E. Hsu, “Errors Model of a Rotary Axis by Using Multiple Optical Readers,” The International Multi-Conference on Engineering and Technology Innovation (IMETI 2019), J9023 (Kaohsiung, Taiwan, November 15-19, 2019). 5. **Y. T. Chen**, T. H. Hsieh, J. R. Chen, P. E. Hsu and B. L. Ho, “A New Geometric Errors Measurement of a Rotary Table by LaserTRACER,” The International Multi-Conference on Engineering and Technology Innovation (IMETI 2019), J9022 (Kaohsiung, Taiwan, November 15-19, 2019). 6. **Y. T. Chen**, P. More, C. S. Liu, and C. C. Cheng “Development of experimental measurement strategy to analyze the measurement method of location errors of rotary C-axis on five-axis machine tools,” Proceedings of 2019 Engineering Mechanics Institute International Conference (EMI 2019), p. 266. (Lyon, France, July 3-5, 2019). 7. C. C. Cheng, Y. S. Chiu, M. S. Tsai, **Y. T. Chen**, and C. S. Liu “Natural frequency identifications of spindle-toolsystem of machine tools during machining,” Proceedings of 2019 Engineering Mechanics Institute International Conference (EMI 2019), p. 223. (Lyon, France, July 3-5, 2019). 8. **陳昱達**, 林明宗, 朱柏蔚, 李伯皇, 林煒祥, “五軸工具機位置誤差之鑑別、補償與切削驗證,” 2019 兩岸四地先進製造技術會議 (南投縣, Taiwan, ,May 30- June 1, 2019). 9. C. S. Liu, Y. T. Luo, Y. T. Chen and Y. F. Pu, “Measurement of six-degree-of-freedom geometric error for a machine tool,” Proceedings of2018 IEEE International Conference on Advanced Manufacturing (IEEE ICAM 2018), pp. T180004. (Yunlin, Taiwan, November 16-18, 2018). 10. C. S. Liu\*, Y. F. Pu, **Y. T. Chen** and Y. T. Luo, “Design of a measurement system for simultaneously measuring six-degree-of-freedom geometric errors of a long linear stage,” Proceedings of the 6th International Symposium on Sensor Science 2018 (I3S2018), pp. sciforum-017939. (Kenting, Taiwan, August 06-08, 2018). 11. **陳昱達**, Pruthvikumar s more, 劉建聖, “五軸工具機雙旋轉軸組裝誤差線上量測技術分析,” 全國製造工程研討會, pp. SME13 (崑山科技大學, 台南市, Taiwan, November 17-18, 2017). 12. 羅詠泰, **陳昱達**, 蒲昱帆, 劉建聖, “線性軸六自由度幾何誤差量測系,” 全國製造工程研討會, pp. SME02 (崑山科技大學, 台南市, Taiwan, November 17-18, 2017). 13. 蒲昱帆, **陳昱達**, 羅詠泰, 劉建聖, “可同時量測六自由度幾何誤差的長行程線軌量測系統,” 全國製造工程研討會, pp. SME07 (崑山科技大學, 台南市, Taiwan, November 17-18, 2017). 14. C. S. Liu, Z. Y. Wang, and **Y. T. Chen**, “Optical sensor for simultaneous refractive index and thickness measurement,” Proceedings of the International Symposium on Optomechatronic Technology 2017 (ISOT2017), pp. AQ-05. (Tainan, Taiwan, November 05-09, 2017). 15. C. L. Hsieh, Y. H. Chang, **Y. T. Chen**, and C. S. Liu\*, “Design of VCM actuator with the L-shape coil for smartphone cameras,” Proceedings of the IEEE International Magnetics Conference 2017 (INTERMAG 2017), pp. HT-06. (Dublin, Ireland, April 24-28, 2017). | | | |
| **專利** | | | |
| 1. 劉建聖, **陳昱達**, More pruthvikumar subhashrao, “應用於多軸工具機的幾何誤差量測方法,” 中華民國專利I694238, 2020/05/21. 2. C. S. Liu, Y. T. Chen and Y. X. Lin, “Multi-degree-of-freedom error measurement system for rotary axes and method thereof,” U.S. Patent, under review 16018436. 3. 劉建聖, **陳昱達**, 林煜翔, “旋轉軸多自由度誤差量測系統及其方法,”中華民國專利 I677671,2019/11/21 4. C. S. Liu, Y. T. Chen, Y. T. Luo, and Y. F. Pu, “Method and apparatus for measuring errors of movable platform in multiple degrees of freedom,”US Patent, 10502559 B2, 2019/12/10. 5. 劉建聖, **陳昱達**, 蒲昱帆, 羅詠泰,“量測移動平台之多自由度誤差之方法及裝置,”中華民國發明專利 I614513, 2018/02/11. 6. 劉建聖,黃彥勝,**陳昱達**, “傾斜角度與距離量測方法,” 中華民國發明專利 I580930, 2017/05/01. | | | |
| **研究計畫** | | | |
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| **服務** | | | |
| |  |  | | --- | --- | | 2021.2~2021.7 | 明新科技大學 機械工程學系 助理教授 | | 2019.11~2021.1 | 國家度量衡標準實驗室 座標量測儀校正系統 系統負責人 | | 2019.11~2021.1 | 國家度量衡標準實驗室 階規校正系統 系統負責人 | | 2019.9~2021.1 | 工業技術研究院 量測技術發展中心 研究員 | |  |  | |  |  | | | | |