「微製造實驗室」專業研究重要著作

■ Journal Papers

1. S.T. Chen, C.J. Chiang, P.A. Lin, C.T. Huang, Efficient electromagnetic micropunching technology for producing well-ordered, high-density micropits. Materials and Manufacturing Processes, 2022, https://doi.org/10.1080/10426914.2022.2075887, (SCI).
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3. S.T. Chen, K.C. Yang, Semi-ductile cutting regime technology for machining Zerodur glass-ceramic microstructures, Precision Engineering, 2022, 74, 99-109, (SCI).
4. S.T. Chen, L.W. Huang, A micro-energy w-EDM power source based on high-frequency spark erosion for making diamond heat-sink array, International Journal of Precision Engineering and Manufacturing-Green Technology, 2021, (SCI). https://doi.org/10.1007/s40684-021-00396-7
5. S.T. Chen, C.T. Huang, M.Y. Zheng, H.Y Yen, Co-shaft in-situ rolling-imprinting technique for printing of silver micro-nanowire array, Journal of Materials Processing Technology, 2022, 299, 117387-14, (SCI).
6. S.T. Chen, C.C. Chen, S.Y. Shih, Efficient microspark erosion-assisted machining of a monocrystalline microdiamond stylus using a heat-avoidance path, Precision Engineering, 2021, 72, pp.426-436, (SCI).
7. S.T. Chen, W.Y. Jhou, Dual-crankshaft out-of-phase balanced drive mechanism applied to high-frequency scraping of high-density microcavities patterns, International Journal of Precision Engineering and Manufacturing-Green Technology, 2021, 8 (4), 1163-1180, (SCI).
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10. S.T. Chen, C.H. Chen, C.H. Chang, Study of high-frequency microspark-erosion of boron-doped polycrystalline diamond, Diamond & Related Materials, 2019, 94, pp.155-161, (SCI).
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12. S.T. Chen, S.M. Lin, Development of a capacitive sensing technology for the measurement of perpendicularity in the narrow, deep slot-walls of micromolds, Microelectronics Reliability, 2018, 83, pp.216-222, (SCI).

13. S.T. Chen, C.Y. Chu, Fabrication and testing of a novel biopotential electrode array, Journal of Materials Processing Technology, 2017, 250, pp.345-356, (SCI).
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49. C. H. Lin, Y.S. Liao, S.T. Chen, 2006, Development of a novel micro Wire-EDM mechanism for the fabricating of micro parts, Materials Science Forum, Vol.505, pp.235-240, (EI).
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International Conference Papers :

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精微製造技術發明專利

(臺灣發明專利 13 項通過，1 項審查中，美國發明專利 3 項通過，2 項審查中)

1. 複合式加工機構，發明第 I 242480 號，專利期限：2023/08/26.
2. 微線切割加工機構，發明第 I 254659 號，專利期限：2025/04/14.
3. 微細線張力控制機構，發明第 I 255212 號，專利期限：2025/04/14.
4. 懸臂式超精密微型研磨工具，發明第 I 309594 號，專利期限：2026/07/09.
5. 多重電阻電容放電加工系統，發明第 I 560013 號，專利期限：2034/05/29.
6. 一種探測人體訊號的探針和其製造方法，發明第 I 549653 號，專利期限：2035/01/27.
7. 一種雙偏心軸異相位驅動機構，發明第 I 632985 號，專利期限：2037/09/26.
8. 非接觸式陣列線張力控制裝置，發明第 I 635036 號，專利期限：2037/03/19.
9. 流體式線張力控制機構，發明第 I 643688 號，專利期限：2038/03/29.
10. 電磁衝印設備，發明第 I 715299 號，專利期限：2039/11/19.
11. 線上放電削銳系統及其方法，發明第 I 715298 號，專利期限：2039/12/12.

12. 電解加工設備及其方法，發明第 I 742663 號，專利期限：2040/05/14.
13. 同軸滾印設備及其方法，發明第 I 771972 號，專利期限：2041/03/31.
14. "A plural resistance-capacitance (PRC) electrical discharge machining system", 美國發明專利(US 9,950,377 B2), 專利期限：2037/12/03.
15. "Dual eccentric shaft driving mechanism", 美國發明專利(US 10,288,146 B2), 專利期限：2041/05/28.
16. "Non-contact wire array tension control device", 美國發明專利(US 10,857,609 B2), 專利期限：2039/04/30.
17. "Online discharge sharpening system and method thereof", 美國發明專利(5NTNU201901US)(申請號)
18. "Electromagnetic stamping apparatus", 美國發明專利(5NTNU201902US)(申請號)