

近五年個人著作:

SCI Papers (*Corresponding author) (2017~)

1. A. Abbas, Z.B. Lin, R.L. Ma, K.M. Lin, **H.C. Lin***, “Effects of CNTs, Graphene, and Organic Additives on Hydrogen Storage Performance of Severely Deformed ZK60 Alloy”, *International Journal of Hydrogen Energy*, <https://doi.org/10.1016/j.ijhydene.2022.07.112>. (2022)
2. P.C. Lin, K.F. Lin, Y.H. Lin, K.C. Yang, V.I. Semenov, **H.C. Lin***, M.J. Chen**, “Improvement of Corrosion Resistance and Biocompatibility of Biodegradable Mg–Ca Alloy by ALD HfZrO₂ Film”. *Coatings*, 12, 212; (2022)
3. K.F. Lin, S.C. Chen, **H.C. Lin***, H.W. Yen**, “Enhancement in mechanical properties through an FCC-to-HCP phase transformation in an Fe-17.5Mn-10Co-12.5Cr-5Ni-5Si (in at. %) medium-entropy alloy”. *Journal of Alloys and Compounds*, 898, 162765. (2022)
4. C.C. Wang, L.C. Wang, K.C. Yang, M.J. Chen, **H.C. Lin***, Y.Y. Han**, “Enhancement of the anticoagulant capacity of polyvinyl chloride tubing for cardiopulmonary bypass circuit using aluminum oxide nanoscale coating applied through atomic layer deposition”, *Journal of Biomedical Materials Research: Part B - Applied Biomaterials*, 110, 527-534. (2022).
5. C.Y. Chou, H.Y. Chen, Y.S. Jiang, **H.C. Lin***, M.J. Chen*, “Wake-up free Hf_{0.5}Zr_{0.5}O₂ thin film with enhanced ferroelectricity and reliability synthesized by atomic layer crystallization induced by substrate biasing”. *Acta Materialia*, 228, 117762. (2022)
6. S.H. Yi, Y.C. Chan, C.L. Mo, **H.C. Lin***, M.J. Chen*, “Enhancement of Energy Storage for Electrostatic Supercapacitors through Built-in Electric Field Engineering”, *Nano Energy*, 99, 107342. (2022)
7. T.J. Chang, Y.S. Jiang, S.H. Yi, C.Y. Chou, C.I. Wang, **H.C. Lin***, M.J. Chen*, “Atomic tailoring of low-thermal-budget and nearly wake-up free ferroelectric Hf_{0.5}Zr_{0.5}O₂ nanoscale thin films by atomic layer annealing,” *Applied Surface Science*, 591, 153110. (2022)
8. W.X. Wu, W.P. Wang, **H.C. Lin***, “A study on corrosion behavior of micro-arc oxidation coatings doped with 2-aminobenzimidazole loaded halloysite nanotubes on AZ31 magnesium alloys”, *Surface & Coatings Technology*, 416, 127116. (2021)
9. A. Abbas, H.Y. Hung, P.C. Lin, K.C. Yang, M.C. Chen, **H.C. Lin***, Y.Y. Han**, “Atomic layer deposited TiO₂ films on an equiatomic NiTi shape memory alloy for biomedical applications”, *Journal of Alloys and Compounds*, 886, 161282. (2021)
10. A. Abbas, K.C. Hu, **H.C. Lin***, K.M. Lin**, “Effects of ball milling and additives (activated carbon and copper) on hydrogen absorption characteristics of ZK60 alloy”, *Materials Chemistry and Physics*, 271, 124950. (2021)
11. C.I. Wang, C.Y. Wang, T.J. Chang, Y.S. Jiang, J.J. Shyue, **H.C. Lin***, and M.J. Chen**, “Atomic layer deposited TiN capping layer for sub-10 nm ferroelectric Hf_{0.5}Zr_{0.5}O₂ with large remnant polarization and low thermal budget”, *Applied Surface Science*, 570, 151152. (2021).
12. A. Abbas, K.C. Hu, **H.C. Lin***, K.M. Lin**, “Influence of severe plastic deformation and some additives on hydrogenation of ZK60 alloy”, *Journal of Physics and Chemistry of Solids*, 151, 109927. (2021)
13. S.H. Yi, **H.C. Lin***, M.J. Chen*, “Ultra-high energy storage density and scale-up of antiferroelectric TiO₂/ZrO₂/TiO₂ stacks for supercapacitors”, *J. Mater. Chem. A*, 9, 9081-9091. (2021)
14. C.Y. Wang, C.I. Wang, S.H. Yi, T.J. Chang, C.Y. Chou, Y.T. Lin, **H.C. Lin***, M.J. Chen**, “Impact of a TiN Capping Layer on Phase Transformation and Capacitance Enhancement in ZrO₂”, *ACS Appl. Electron. Mater.*, 3, 4, 1937-1946. (2021)
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16. Y.T. Lin, H.L. Yi, Z.Y. Chang, **H.C. Lin***, H.W. Yen* “Role of Vanadium Carbide in Hydrogen Embrittlement of Press-Hardening Steels: Strategy from 1500 MPa to 2000 MPa”, *Frontiers in Materials*, 7, 611390. (2021)
17. K.W. Huang, T.J. Chang, C.Y. Wang, S.H. Yi, C.I. Wang, Y.S. Jiang, Y.T. Yin, **H.C. Lin***, and M.J. Chen*, “Leakage current lowering and film densification of ZrO₂ high-K gate dielectrics by

- Layer-by-Layer, in-situ atomic layer hydrogen bombardment”, *Materials Science in Semiconductor Processing*, 109, 104933. (2020)
18. Y.T. Hsu, H.Y. Jiang, **H.C. Lin***, H.W. Yen, Steven Hong, “Hydrogen-induced Embrittlement of Advanced Nickel-Chromium-Molybdenum HSLA Steels Used for Lifting Accessory”, *Journal of Chinese Institute of Engineers*, 43, 58-66. (2020)
 19. Y.T. Yin, Y.S. Jiang, Y.T. Lin, T.J. Chang, **H.C. Lin**, and M.J. Chen* “Enhancement of dielectric properties of nanoscale thin films via atomic layer bombardment,” *ACS Applied Electronic Materials*, 2, 8, 2440-2448. (2020)
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 21. W.H. Lee, W.C. Kao, Y.T. Yin, S.H. Yi, K.W. Huang, **H.C. Lin**, and M.J. Chen*, “Sub-nanometer heating depth of atomic layer annealing” *Applied Surface Science* 525, 146615. (2020)
 22. S.H. Yi, Huang, K.W. Huang, **H.C. Lin**, M.J. Chen*, “Low-temperature Crystallization and Paraelectric-ferroelectric Phase Transformation in Nanoscale ZrO₂ Thin Films Induced by Atomic Layer Annealing”, *Journal of Materials Chemistry C*, 8, 3669-3677. (2020)
 23. S.C. Chen, T.Y. Kuo, **H.C. Lin**, R.Z. Chen, H. Sun*, “Optoelectronic properties of p-type NiO films deposited by direct current magnetron sputtering versus high power impulse magnetron sputtering”, *Applied Surface Science*, 508, 145106. (2020)
 24. C. Wang, K.F. Lin, Y.L. Zhao, T. Yang, T.L. Zhang, W.H. Liu, C.H. Hsueh, **H.C. Lin**, J.J. Kai, C.T. Liu*, “Martensitic transformation and mechanical behavior of a medium-entropy alloy”, *Materials Science and Engineering A*, 786 1(June). (2020) 139371
 25. W.C. Kao, W.H. Lee, S.H. Yi, T.H. Shen, **H.C. Lin***, M.J. Chen*, “AlN epitaxy on SiC by low-temperature atomic layer deposition via layer-by-layer, in-situ atomic layer annealing”, *RSC Adv.* 9, 12226-12231. (2019)
 26. T.J. Chang, W.H. Lee, C.I. Wang, S.H. Yi, Y.T. Yin, **H.C. Lin**, and M.J. Chen*, “High-K Gate Dielectrics Treated with in Situ Atomic Layer Bombardment”, *ACS Applied Electronic Materials*, 1, 1091-1098. (2019)
 27. Y.C. Lin, Delphic Chen, M.H. Chiang, G.J. Cheng, **H.C. Lin**, H.W. Yen*, “Response of Hydrogen Desorption and Hydrogen Embrittlement to Precipitation of Nanometer-Sized Copper in Tempered Martensitic Low-Carbon Steels”, *JOM*, 71, 1349-1356. (2019)
 28. H. Sun, T.Y. Kuo, S.C. Chen*, Y.H. Chen, **H.C. Lin**, M.A.P. Yazdi, A. Billard, “Contribution of enhanced ionization to the optoelectronic properties of p-type NiO films deposited by high power impulse magnetron sputtering”, *Journal of the European Ceramic Society*, 39, 5285-5291. (2019)
 29. W.H. Lee, Y.T. Yin, P.H. Cheng, J.J. Shyue, M. S., **H.C. Lin**, M.J. Chen*, “Nanoscale GaN Epilayer Grown by Atomic Layer Annealing and Epitaxy at Low Temperature”, *ACS Sustainable Chem. Eng.*, 7, 487-495. (2019)
 30. C.I. Wang, T.J. Chang, C.Y. Wang, Y.T. Yin, J.J. Shyue, **H.C. Lin**, M.J. Chen*, “Suppression of GeO_x interfacial layer and enhancement of the electrical performance of the high-K gate stack by the atomic-layer-deposited AlN buffer layer on Ge metal-oxide-semiconductor devices”, *RSC Adv.*, 9, 592-598. (2019)
 31. Y.S. Lin, P. H. Cheng, K.W. Huang, **H.C. Lin**, M.J. Chen*, “Atomic layer deposition of sub-10 nm high-K gate dielectrics on top-gated MoS₂ transistors without surface functionalization”, *Applied Surface Science*, Vol. 443, pp. 421-428. (2018)
 32. T.C. Cheng, C. Yu, T.C. Yang, C.Y. Huang, **H.C. Lin**, R.K. Shiue*, “Microstructure and impact toughness of offshore steel”, *Arch. Metall. Mater.*, Vol. 63, pp. 167-172. (2018)

33. Y.S. Lin, K.W. Huang, **H.C. Lin***, M.J. Chen*, “Effective work function modulation of the bilayer metal gate stacks by the Hf-doped thin TiN interlayer prepared by the in-situ atomic layer doping technique”, *Solid State Communications*, Vol. 258, pp. 49-53. (2017)
34. K.W. Huang, P.H. Cheng, Y.S. Lin, C.I. Wang, **H.C. Lin**, M.J. Chen*, “Tuning of the work function of bilayer metal gate by in-situ atomic layer lamellar doping of AlN in TiN interlayer”, *Journal of Applied Physics* 122, 095103 (2017)
35. H.W. Yen*, M.H. Chiang, Y.C. Lin, Delphic Chen, C.Y. Huang, **H.C. Lin**, “High-temperature tempered martensite embrittlement in quenched-and-tempered offshore steels”, *Metals*, doi:10.3390/met7070253, pp. 1-13. (2017)
36. H.Y. Shih, W.H. Lee, W.C. Kao, Y.C. Chuang, R.M. Lin, **H.C. Lin**, M. Shiojiri, M.J. Chen*, “Low-temperature atomic layer epitaxy of AlN ultrathin films by layer-by-layer, in-situ atomic layer annealing” *Scientific Reports*, Vol. 7, 39717. (2017)

專書論文

37. A. Abbas, **H.C. Lin***, S.J. Huang**, “Challenges in Manufacturing of Light Metal (Mg, Al, Ti) Matrix Composites”. A Chapter in *The Fundamentals of Metal-Matrix Composites*. Nova Science Publishers, Inc. (2022)

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38. V. Semenova*, L. Shustera, **H.C. Lin**, S. Chertovskikha, O. Kulyasova, “Influence of the Structural State of the Mg-1%Ca Magnesium Alloy on Tribological Properties”. *Tribology in Industry*, DOI: 10.24874/ti.1162.08.21.02. (2022)
39. V. Semenov*, **H.C. Lin**, I. Kodirov. “Virtual estimation of the force of deformation and intensity of deformation when producing samples from a magnesium alloy of the composition Mg-1%Ca by SPD methods according to ECAP and HPT schemes”, *MACHINES, TECHNOLOGIES, MATERIALS*, Issue 5, pp. 193-197. (2021).
40. O. Kulyasova*, R. Islamgaliev, **H.C. Lin**, H. Yilma. “Microstructure and Mechanical Properties of the UFG Magnesium Alloy Mg-1%Ca”, *Materials Science Forum*, vol. 1016, pp. 768-773. (2021).

專利

1. 陳勝吉、郭宗諺、林新智，高導電性之氧化鎳薄膜製程，中華民國專利，發明第 I541372 號
2. 林新智、謝宗霖、顏鴻威、謝宗霖、陳志遠、丘群，一種輕量化儲/放氫罐，中華民國專利，發明第 I769575 號
3. 林新智、謝宗霖、顏鴻威、謝宗霖、陳志遠、丘群，一種輕量高導熱儲/放氫罐模組，中華民國專利，申請案號：109138562, 2021 年度