

## SCI 期刊論文：210 篇

1. T. H. Chuang, W. Gust, L. A. Heldt, M. B. Hinttz, S. Hofmann, R. Lucic, and B. Predel, 1982, "Observations of Fracture Surface Chemistry on Cu-0.5at.% Sb Bicrystals", *Scripta Met.*, 16, 1437-1441, U.S.A.
2. T. H. Chuang, R. A. Fournelle, W. Gust, and B. Predel, 1986, "The Morphology of Discontinuous Precipitation on the Surface of Ni-In and Ni-Sn Alloys", *Scripta Met.*, 20, 25-28, U.S.A.
3. T. H. Chuang, R. A. Fournelle, W. Gust, and B. Predel, 1986, "Proof of an Asymmetry of Grain Boundary Migration in Solid Solutions", *Trans. JIM Suppl.*, 27, 419-426, Japan.
4. T. H. Chuang, R. A. Fournelle, W. Gust, and B. Predel, 1986, "Mechanisms of Grain Boundary Migration during Discontinuous Dissolution in Ni-In Polycrystals", *Trans JIM Suppl.*, 27, 609-616, Japan.
5. H. C. Shih and T. H. Chuang, 1987, "Einfluss der Natriumchloridkonzentration auf die Kontaktkorrosion von Aluminum-Legierungen", *Metall*, 41, 278-280, Germany.
6. T. H. Chuang, R. A. Fournelle, W. Gust, and B. Predel, 1988, "Discontinuous Coarsening of Discontinuous Precipitate in a Ni-7.5 at.% In Alloy", *Acta Metall.*, 36, 775-785, England.
7. T.H.Chuang and S.J.Chen, 1988, "Nontraditional Grain Refinement through Phase Transformation in an Al-Zn Alloy", *J. Chin. Inst. Eng.*, 11, 707-713, Taiwan.
8. T. H. Chuang, R. A. Fournelle, W. Gust, and B. Predel, 1989, "Discontinuous Coarsening and Dissolution in an Fe-13.5 at.% Zn Alloy", *Mat. Sci. and Eng.*, A112, 175-183, U.S.A.
9. T. H. Chuang, R. A. Fournelle, W. Gust, and B. Predel, 1989, "Drei diskontinuierliche Festkörperreaktionen in einer  $\alpha$ -Fe-13.5 at.% Zn Legierung", *Z. Metallk.*, 80, 318-326, Germany.
10. Y. D. Yao, T. H. Chuang, and C. K. Lee, 1989, "Electrical and Magnetic Studies on Grain Boundary Segregation in a Ni-3at.% Sn Alloy", *IEEE Trans. Magnetic*, 25, 5, 3958, U.S.A.
11. S. J. Tzeng, Y. D. Yao, and T. H. Chuang, 1990, "Electrical Resistivity of Nickel-Rich Nickel-Indium Alloys between 10 and 800K", *Phys. Stat. Sol.*, A117, K47, Germany.
12. T. H. Chuang, Y. C. Pan, and M. S. Yeh, 1990, "Effect of Alloying Elements on the Corrosion Behavior of Ni<sub>3</sub>Al Intermetallic Compound", *Metall*, 44, 456, Germany.
13. Y. D. Yao, Y. Y. Chen, T. J. Li, and T. H. Chuang, 1990, "Magnetization Study on Grain Boundary Precipitation on a Ni-8 at.% Sn Alloy", *J. Appl. Phys.*, 67,

4832, U.S.A.

14. Y. D. Yao, Y. Y. Chen, S. J. Tzeng, and T. H. Chuang, 1990, "Electrical Resistivity, Magnetization and Grain Boundary Precipitates in Ni-Sn Alloys", *Phys. Stat. Sol. A*121, 213, Germany.
15. T. H. Chuang, Y. C. Pan, and S. E. Hsu, 1991, "Grain Boundary Pect of Boron-Doped Ni<sub>3</sub>Al at 1200°C", *Metall. Trans.*, 22A, 1801-1809, U.S.A.
16. T. H. Chuang, 1991, "The Mutual Effects of B, Zr and Al on Grain Boundary Segregation in Ni<sub>3</sub>Al Intermetallic Compounds", *Mat. Sci. Eng.*, A141, 169-178, U.S.A.
17. Y. C. Pan, T. H. Chuang, and Y. D. Yao, 1991, "Long Term Oxidation Behavior of Ni<sub>3</sub>Al Alloys With and Without Chromium Additions", *J. Mat. Sci.*, 26, 6079-6103, England.
18. Y. D. Yao, Y. Y. Chen, T. H. Chuang, C. Kung, and C. J. Lin, 1992, "Electrical Resistivity, Magnetization, and Grain-Boundary Precipitate in Nickel-Rich Nickel-Indium Alloys", *J. Appl. Phys*, 69, 5361-5363, U.S.A.
19. S. L. Lee, H. H. Liang, M. W. Liang, and T. H. Chuang, 1992, "Effects of Heat Treatment on the structure, Corrosion Behavior, Wear and Wear-Corrosion of Ni-Mo-P Alloy Deposits", *Corrosion Prevention and Corrosion*, 39, 94-99, U. K.
20. T. H. Chuang, S. Y. Chang, C. R. Chen, H. P. Kao, and S. E. Hsu, 1992 "Superplastic Forming/diffusion Bonding of Ti6Al4V Sheets", *Trans. Aeronautical & Astronautical Soc. R.O.C.*, 24, 89-96 Taiwan.
21. T. H. Chuang and Y. C. Pan, 1992, "On the Mechanisms of High Temperature Intergranular Embrittlements of Ni<sub>3</sub>Al-Zr Alloys", *Metall. Trans.*, 23A, 1187-1193, U.S.A.
22. T. H. Chuang and Y. C. Pan, 1992, "Studies on the Diffusion Bonding of a Ni<sub>3</sub>Al Alloy", *Schweissen & Schneiden (German Welding & Cutting Journal)*, 44, 559-564, Germany.
23. T. T. Chang and T. H. Chuang, 1994, "Grain Boundary Melting of Hafnium Containing Ni<sub>3</sub>Al Intermetallic Compounds", *Scripta Met. Et Mat.*, 31, 763-768, U.S.A.
24. M. S. Yeh and T. H. Chuang, 1995, "Low-Pressure Diffusion Bonding of SAE 316 Stainless by Inserting a Superplastic Interlayer", *Scripta Met. Et Mat.*, 33, 1277-1281 U.S.A.
25. M. S. Yeh, C. W. Tsau, and T. H. Chuang, 1996, "Evaluation of Superplastic Formability of SP-Inconel 718 Superalloy", *J. Mat. Eng. & Perf.*, 5, 64-70, U.S.A.
26. J. S. Shyu and T. H. Chuang, 1996, "Superplastic Forming by Decomposition of (CaCO<sub>3</sub>+C) and MgCO<sub>3</sub>, *J. Mat. Eng. & Perf.*, 5, 387-395, U.S.A.

27. J. S. Shyu and T. H. Chuang, 1996, "Diffusion Bonding/Superplastic Forming of Ti6Al 6V2Sn/SUS 304 Stainless Steel/Ti6Al6V2Sn", *J. Mat. Eng. & Perf.*, 5, 84-88, U.S.A.
28. T. S. Tsai and T. H. Chuang, 1996, "Atmospheric Corrosion Cracking of a Superplastic 7475 Aluminum Alloy", *Metall. & Mat. Trans.*, 27A, 2617-2627, U.S.A.
29. S. Y. Yu, H. Ishii, and T. H. Chuang, 1996, "Corrosive Wear of SiC Whisker-and Particulate-Reinforced 6061 Aluminum Alloy Composites", *Metall. & Mat. Trans.*, 27A, 2653-2662, U.S.A.
30. T. T. Chang, T. H. Chuang, and Y. C. Pan, 1996, "The Oxidation Behaviors of Ni<sub>3</sub>Al-Zr Alloys with various Zr Contents", *J. Alloys and Compounds*, 243, 126-132, U.S.A.
31. T.S. Tsai and T. H. Chuang, 1996, "On the Relationship between Electrical Conductivity and Stress Corrosion Susceptibility of 7075 and 7475 Aluminum Alloys", *Corrosion*, 52, 414-416, U.S.A.
32. L. S. Chang and T. H. Chuang, 1997, "Ultrasonic Testing of Artificial Defects in Alumina Ceramic", *Ceramics International*, 23, 367-373, England.
33. C. C. Huang, Y. C. Pan, and T. H. Chuang, 1997, "Effects of Post-Weld Heat Treatments on the Residual Stress and Mechanical Properties of Electron Beam Welded SAE4130 Steel Plates", *J. Mat. Eng. & Perf.*, 6, 61-68, U.S.A.
34. T. S. Tsai and T. H. Chuang, 1997, "Role of Grain Size on the Stress Corrosion Cracking of 7475 Aluminum Alloys", *Mat. Sci., & Eng.A225*, 135-144, U.S.A.
35. M. S. Yeh and T. H. Chuang, 1997, "The SPF/Brazing Process for Inconel 718 SPF Superalloy Components", *Welding , Res. Suppl.*, May, 197S-200S, U.S.A.
36. M. S. Yeh and T. H. Chuang, 1997, "Effects of Applied Pressure on the Brazing of Superplastic Inconel 718 Superalloy", *Metall. Mat. Trans.*, 28A, 1367-1376, U.S.A.
37. Y. H. Chai, W. P. Weng and T. H. Chuang, 1997, "Relationship between Wettability and Interfacial Reaction for Sn<sub>10</sub>Ag<sub>4</sub>Ti on Al<sub>2</sub>O<sub>3</sub> and SiC Substrates", *Ceramics International*, 23, 367-373, England.
38. C. C. Huang and T. H. Chuang, 1997, "Effects of Post-Weld Heat Treatments on the Residual Stress and Mechanical Properties of Laser Beam Welded SAE 4130", *Mat. & Manuf. Processes*, 12, 5, 779-787, U.S.A.
39. T. C. Tsai, J. C. Chang, and T. H. Chuang, 1997, "Stress Corrosion Cracking of Superplastically Formed 7475 Aluminum Alloy", *Metall. Mat. Trans, A*, 28A, 2113-2122, U.S.A.
40. W. P. Weng, H. W. Wu, Y. H. Chai, and T. H. Chuang, 1997, "Interfacial Characteristics for Active Brazing of Alumina to Superalloys", *J. Advanced*

Mat., January, 35-40, U.S.A.

41. W. P. Weng and T. H. Chuang, 1997, "Interfacial Characteristics for Brazing of Aluminum Matrix Composites with Al-12Al Filler Metals", *Metall. Mat. Trans.*, 28A, 2673-2682, U.S.A.
42. W. P. Weng and T. H. Chuang, 1997, "Brazing of Aluminum Matrix Composites with Sn10Ag4Ti Active Filler Metall", *Mat. & Manuf. Processes*, 12,6, 1107-1132., U.S.A.
43. T.T.Chang and T.H.Chuang, 1997, "Influence of Zr Addition on the Corrosion Behavior of the Ni3Al Intermetallic Compounds", *J. Chin. Inst. Eng.*, 20, 6, 623-628, Taiwan.
44. J. C. Chang, T. C. Tsai, and T. H. Chuang, 1998, "Microstructural Aspects of Serrated Yielding Behavior in the Al-Li 8090 Alloy", *Z. Metallk.*, 89,5,356-362, Germany.
45. S. L. Lee, K. C. Lee, and T. H. Chuang, 1998, "Discontinuous Coarsening of Discontinuous Precipitates in a Co-6at.% Mo Alloy", *Mat. Sci. & Eng.*, A251, 135-141, U.S.A.
46. C. K. Fang, C. C. Huang, and T. H. Chuang, 1999, "Synergistic Effects of Wear and Corrosion for Al<sub>2</sub>O<sub>3</sub> Particulate-Reinforced 6061 Aluminum Matrix Composites", *Metall. Mat. Trans.*, 30A, 643-651, U.S.A.
47. J. C. Huang and T. H. Chuang, 1999, "Progress on Superplasticity and Superplastic Forming in Taiwan during 1987-1997", *Mat. Chem. & Phy.*, 57, 195-206, U.S.A.
48. J. C. Chang and T. H. Chuang, 1999, "Stress Corrosion Cracking Susceptibility of the Superplastically Formed 5083 Aluminum Alloy in 3.5 pct. NaCl Solution", *Metall. Mat. Trans.*, 30A, 3191-3199, U.S.A.
49. Y. H. Tseng, M. S. Yeh, and T. H. Chuang, 1999, "Interfacial Reactions between Liquid Indium and Nickel Substrate", *J. Electronic Mat.*, 2, 105-108, U.S.A.
50. C. K. Fang and T. H. Chuang, 1999, "Erosion of SS41 Steel by Sand-Blasting", *Metall. Mat. Trans.*, 30A, 941-948, U.S.A.
51. J. C. Huang and T. H. Chuang, 1999, "Recent Research and Development Activities on superplasticity in Taiwan", *Mat. Sci. Forum*, 304-306, 225-232, Switzerland.
52. M. S. Yeh, J. C. Chang, and T. H. Chuang, 1999, "Stress Corrosion Cracking of a Superplastic and Nonsuperplastic Zn-22.3 Ae Alloy in 3% Na Cl Solution", *J. Mat. Eng & Pert.*, 8(2), 219-224, U.S.A.
53. Y. H. Tseng and T. H. Chuang, 1999, "Evaluation of Superplastic Formability for a 5083 Al-Mg alloy", *Z. Metallk.* 90, 434-438, Germany.
54. C. K. Fang, R. L Fang, W. P. Weng, and T. H. Chuang, 1999, "Applicability of

- Ultrasonic Testing on the Determination of Volume Fraction of Particulates in Alumina Reinforced Aluminum Matrix Composites”, *Mat. Charact.*, 43, 144-152, U.S.A.
55. C. K. Fang and T. H. Chuang, 1999, “Surface Morphologies and Erosion Rates of Metallic Building materials after Sandblasting”, *Wear*, 230, 156-164, U.S.A.
  56. C. K. Fang and T. H. Chuang, 1999, “The Effect of Humidity on the Erosive Wear of 6063 Al Alloy”, *Wear*, 236, 144-152, U.S.A.
  57. T. H. Chuang, M. S. Yeh, and Y. H. Chai, 2000, “Brazing of Zirconia with AgCuTi and SnAgTi Active Filler Metals”, *Metall. Mat. Trans.*, 31A, 1591-1597, U.S.A.
  58. M. S. Yeh, W. P. Weng, S. C. Wang, and T. H. Chuang, 2000, “Plastic Flow Behaviors during the Isothermal Forging of Aluminum Matrix Composites”, *Metall. Mat. Trans.*, 31A, 1310-1313, U.S.A.
  59. Y. M. Liu and T. H. Chuang, 2000, “Interfacial Reactions between Liquid In and Au Deposited Substrate”, *J. Electronic Mat.*, 29, 4, 405-410, U.S.A.
  60. C. K. Fang and T. H. Chuang, 2000, “Temperature Effects on the Erosion of Aluminum Alloy”, *CIM Bulletin*, 93, 115-117, Canada.
  61. M. S. Yeh, C. B. Chang, and T. H. Chuang, 2000, “Diffusion Bonding of a Superplastic Inconel 718 SPF Superalloy by Electroless Nickel Plating”, *J. Mat. Eng. & Perf.*, 9(1), 51-55, U.S.A.
  62. L. C. Tsao, M. S. Yeh, C. J. Lo, F. C. Wu and, T. H. Chuang, 2000, “Evaluation of Low Temperature Superplastic Formability for Zn-22Al Thin Sheets”, *Z. Metallk.*, 91, 613-617. Germany.
  63. T. H. Chuang, M. S. Yeh, L. C. Tsao, T. C. Tsai, and C. S. Wu, 2000, “Development of a Low-Melting-Point Filler Metal for Brazing Aluminum Alloys”, *Metall. Mat. Trans.*, 31A, 2239-2245. U.S.A.
  64. Y. M. Liu and T. H. Chuang, 2000, “Interfacial Reactions between In10Ag Solders and Ag Substrates”, *J. Electronic Mat.*, 29, 1328-1332, U.S.A.
  65. Y. M. Liu, Y. L. Chen, and T. H. Chuang, 2000, “Interfacial Reactions between Liquid Indium and Silver Substrates”, *J. Electronic Mat.*, 29, 8, 1047-1051, U.S.A.
  66. M. S. Yeh, L. C. Tsao, and T. H. Chuang, 2000, “Effects of Microstructures on Corrosion and Stress Corrosion Behaviors of an Al-12.1 at.% Zn Alloy”, *J. Mat. Eng. & Perf.*, 9(4), 396-401, U.S.A.
  67. J. C. Chang and T. H. Chuang, 2000, “The Degradation of Corrosion Resistance for Al 5083 Alloy after Thermal and Superplastic Forming Processes”, *J. Mat. Eng. & Perf.*, 9(3), 253-260, U.S.A.
  68. Y. T. Huang and T. H. Chuang, 2000, “Interfacial Reactions between Liquid

- In48Sn Solders and Ag Substrates”, *Z. Metallkd.*, 91, 1002-1005, Germany.
69. H. H. Huang and T. H. Chuang, 2000, “Erosion- and Wear-Corrosion Behavior of Fe-Mn-Al Alloys in NaCl Solution”, *Mat. Sci. Eng.*, A292, 90-95, U.S.A.
  70. L. S. Chang, T. H. Chuang, and W. J. Wei, 2000, “Characterization of Alumina Ceramics by Ultrasonic Testing”, *Mat. Character.*, 45, 221-226, U.S.A.
  71. T. H. Chuang, Y. T. Huang, and L.C. Tsao, 2001, “AgIn<sub>2</sub>/Ag<sub>2</sub>In Transformations in an In-49Sn/Ag Soldered Joint under Thermal Aging”, *J. Electronic Mat.*, 30, 945-950, U.S.A.
  72. L. C. Tsao, C. F. Wu and T. H. Chuang, 2001, “Evaluation of Superplastic Formability of the AZ31, Magnesium Alloy”, *Z. Metallkd.*, 92, 572-577, Germany.
  73. T. H. Chuang and L. C. Tsao, 2001, “Surface Self-Cleaning Effect of Zn-22 Alloy during Superplastic Deformation”, *Z. Metallkd.*, 92, 370-375, Germany.
  74. L. C. Tsao, T. C. Tsai, C. S. Wu, and T. H. Chuang, 2001, “Brazeability of the 6061-T6 Aluminum Alloy with Al-Si-20Cu Based Filler Metals”, *J. Mat. Eng. & Perf.*, 10, 705-709, U.S.A.
  75. L. C. Tsao, S. S. Wang, C. F. Yang, and T. H. Chuang, 2001, “The Ultra-High Rate Superplastic Forming of a Zn-22Al Thin Sheet Material”, *Z. Metallkd.*, 92, 1227-1230, Germany.
  76. S. S. Wang, M. D. Cheng, L. C. Tsao, and T. H. Chuang, 2001, “Corrosion Behavior of Al-Si-Cu-(Sn,Zn) Brazing Filler Metals”, *Mat. Character.*, 47, 401-409, U.S.A.
  77. Y. C. Chan, M. Y. Chiu, and T. H. Chuang, 2002, “Intermetallic Compounds formed during the Soldering Reactions of Eutectic Sn-9Zn with Cu and Ni Substrates”, *Z. Metallkd.*, 93, 95-98, Germany.
  78. M. D. Cheng, S. S. Wang and T. H. Chuang, 2002, “Soldering Reactions between In49Sn and Ag Thick Films”, *J. Electron. Mat.*, 31, 3, 171-177, U.S.A.
  79. M. Y. Chiu, S. Y. Chang, Y. H. Tseng, Y. C. Chan, and T. H. Chuang, 2002, “Characterization of Intermetallic Compounds formed during the Interfacial Reactions of Liquid Sn and Sn-58Bi Solders with Ni Substrates”, *Z. Metallkd.*, 93, 248-252, Germany.
  80. C. L. Yu, S. S. Wang, and T. H. Chuang, 2002, “Intermetallic Compounds formed at the Interface between Liquid Indium and Copper Substrates”, *J. Electron. Mat.*, 31, 488-493, U.S.A.
  81. M. Y. Chiu, S. S. Wang, and T. H. Chuang, 2002, “The Interfacial Reaction between Liquid Sn-8Zn-3Bi Solder and Ni Substrate”, *J. Electron. Mat.*, 31, 5, 494-499, U.S.A.
  82. L. C. Tsao, T. L. Su and T. H. Chuang, 2002, “Evaluation of the Formability of

Plastic/Zn 22Al Al/Plastic Sandwiched Structures by Gas Blowing”, *Polymer Composites*, 23, 6, 1036-1043, U.S.A.

83. T. H. Chuang, C. L. Yu, S. Y. Chang, and S. S. Wang, 2002, “ Phase Identification And Growth Kinetics of the Intermetallic Compounds Formed during In-49Sn/Cu Soldering Reactions” *J. Electron. Mat.*, 31, 6, 640-645, U. S.A.
84. T. L. Su, S. S. Wang, L. C. Tsao, S. Y. Chang, T. H. Chuang, and M. S. Yeh, 2002, “ Corrosion Behaviors of Al-Si-Cu Based Filler Metals and 6061-T67 Brazements, “ *J. Mat. Eng. Prof.*, 11, 2, 187-193, U. S.A.
85. C.K. Fang, C.C. Huang, and T.H. Chuang, 2002, “Residual Stresses in Laser Welds”, *Welding Design & Fabrication*, July, 34~50, U.S.A
86. L. C. Tsao, W. P. Weng, M. D. Cheng, C. W. Tsao, and T. H. Chuang, 2002, “Brazeability of a 3003 Aluminum Alloy with Al-Si-Cu-Brazed Filler Metals”, *J. Mat. Eng. Perf.*, 11, 4, 360-364, U.S.A.
87. T. L. Su, L. C. Tsao, S. Y. Chang, and T. H. Chuang, 2002, “Morphology and Growth Kinetics of Ag<sub>3</sub>Sn during Soldering Reaction between Liquid Sn and Ag Substrate” *J. Mat. Eng. Prof.*, 11, 2, 187-193, U.S.A.
88. T. L. Su, L. C. Tsao, S. Y. Chang, and T. H. Chuang, 2002, ”Interfacial Reactions of Liquid Sn and Sn-3.5Ag Solders with Ag Thick Films,” *J. Mat. Eng. Perf.*, 11, 5, 481-486, U. S.A.
89. M. J. Chiang and T. H. Chuang, 2002, “Interfacial Reaction between Liquid Sn-20In-2.8Ag Solder and Ag Substrate”, *Z. Metallkd.*, 93, 12, 1194-1198, Germany.
90. L.C. Tsao, M.J. Chiang, W. H. Lin, M.D. Cheng, and T.H. Chuang, 2002 “Effects of Zinc Addition on the Microstructure and Melting Temperatures of Al-Si-Cu Filler Metals”, *Mat. Charact.*, 341~346, U.S.A
91. S. Y. Chang, S. S. Wang, L. C. Tsao, and T. H. Chuang, 2003 “Morphology and Kinetics of Discontinuous Precipitations and Dissolution in an Fe-8.5Al-27Mn-1.0Si-0.92C Alloy”, *Metall. Mat. Trans.*, 25-31, U. S. A.
92. T. H. Chuang, S. Y. Chang, L. C. Tsao, W. P. Weng and H. M. Wu, 2003, “Intermetallic Compounds Formed during the Reflow of In-49Sn Solder Ball-Grid-Array Packages”, *J. Electron. Mat.*, 32, 3, 195-200, U. S. A.
93. M. W. Liang, T. E. Hsieh, S. Y. Chang and T. H. Chuang, 2003, “Thin-Film Reactions during Diffusion Soldering of Cu/Ti/Si and Au/Cu/Al<sub>2</sub>O<sub>3</sub> with Sn Interlayers”, *J. Electron. Mat.*, 12, 4, 452-455, U. S. A.
94. W. H. Lin and T. H. Chuang, 2003, “ Interfacial Reactions between Liquid Sn<sub>8</sub>Zn<sub>3</sub>Bi Solders and Cu Substrates”, *J. Mat. Eng. Perf.*, 12,4,383-389,U.S.A.
95. S. Y. Chang, L. C. Tsao, M. J. Chiang, C. N. Tung, G. H. Pan and T. H.

- Chuang,2003, "Active Soldering of Indium Tin Oxide (ITO) with Cu in Air Using an Sn-3.5Ag4Ti(Ce, Ga) Filler", J. Mat. Eng. Perf., 12, 4, 383-389, U. S. A.
96. S. Y. Chang, Y. H. Hung and T. H. Chuang, 2003, "Joining Alumina to Inconel 600 and UMCO-50 Superalloys Using an Sn10Ag4Ti Active Filler Metal", J. Mat. Eng. Perf., 12, 123-127, U. S. A.
  97. M. J. Chiang, S. Y. Chang and T. H. Chuang, 2004, "Reflow and Burn-in of an Sn-20In-0.8Cu BGA Package with Au/Ni/Cu Pad", J. Electron. Mat., 33, 1, 34-39, U. S. A.
  98. T.H. Chuang, H. M. Wu, M. D. Cheng, S. Y. Chang and S. F. Yen, 2004 , "Mechanisms for Interfacial Reactions between Liquid Sn-3.5Ag Solders and Cu Substrates", J. Electron. Mat., 33, 1, 22-27, U. S. A.
  99. M.D. Cheng, S.Y. Chang, S.F. Yen, and T.H. Chuang, 2004, "Intermetallic Compounds Formed during the Reflow and Aging of Sn-3.8Ag-0.7Cu and Sn-20In-2Ag-0.5Cu Solder Ball Grid Array Packages" , J. Electron. Mat., 33, 3, 171-180,(Erratum: 33, 7, L18)
  - 100.T.H. Chuang, K.W. Huang, and W.H. Lin, 2004, "Mechanisms for the Intermetallic Formation during the Sn-20In-2.8Ag / Ni Solder Reactions" , J. Electron. Mat., 33, 4, 374-381, U. S. A.
  - 101.H.F. Wu, M.J. Chiang, and T.H. Chuang, 2004, "Selective Formation of Intermetallic Compounds in Sn-20In-0.8Cu Ball Grid Array Solder Joints with Au / Ni Surface Finishes" , J. Electron. Mat., 33, 9, 940-947, U.S.A.
  - 102.H.M.Wu, F.C.Wu, and T.H.Chuang, 2005, "Intermetallic Reactions in a Sn-20In-2.8Ag Solder BGA Package with Au/Ni/Cu Pads" J. Electron. Mater., 34, 11, 1385-1390, U.S.A.
  - 103.Y. C. Liu, W. H. Lin, H. J. Lin ,and T. H. Chuang, 2006, "Intermetallic Reactions in Sn-8Zn-20In Solder Ball Grid Array Packages with Au/Ni/Cu and Ag/Cu Pads", J. Electron. Mater. , 35,1,147-153, U.S.A.
  - 104.H. J. Lin and T. H. Chuang , 2006, "Intermetallic Reactions in Reflowed and Aged Sn-9Zn Solder BGA Packaged with Au/Ni/Cu and Ag/Cu Pads ", J. Electron. Mater. , 35,1,154-164, U.S.A.
  - 105.S. S. Wang, Y. H. Tseng, and T. H. Chuang, 2006, "Intermetallic Compounds Formed during the Interfacial Reactions between Liquid In-49Sn Solder and Ni Substrates", J. Electron. Mater. , 35,1,165-169, U.S.A.
  - 106.T. H. Chuang, S. F. Yen, and H. M. Wu, 2006 , "Intermetallic Formation in Sn3Ag0.5Cu and Sn3Ag0.5Cu0.06Ni0.01Ge Solder BGA Packages with Immersion Ag Surface Finish", J. Electron. Mater. , 35,2,310-318, U.S.A.
  - 107.T. H. Chuang, S. F. Yen, and M. D. Cheng, 2006, "Intermetallic Formation in Sn3Ag0.5Cu and Sn3Ag0.5Cu0.06Ni0.01Ge Solder BGA Packages with



- Au/Ni/Cu Pads”, *J. Electron. Mater.*, 35,2,302-309, U.S.A.
- 108.C. C. Chi and T. H. Chuang, 2006, “Intermetallic Reactions in Sn-3.5Ag Solder Ball Grid Array Packages with Ag/Cu and Au/Ni/Cu Pads”, *J. Electron. Mater.*, 35,3,471-478, U.S.A.
- 109.S. Y. Chang, M. H. Lu, L. C. Tsao, and T. H. Chuang, 2006, “Active Soldering of ITO to Copper”, *Welding Journal*, April 2006, 81s-83s, U.S.A.
- 110.Iting Tsai, Enboa Wu, S. F. Yen, and T. H. Chuang, 2006, “Mechanical Properties of Intermetallic Compounds of Lead-Free Solder by Moire’Technique” *J. Electron. Mater.*, 35,5,1059-1066, U.S.A.
- 111.T. H. Chuang, H. J. Lin and C. W. Tsao, 2006, “Intermetallic Compounds Formed During Diffusion Soldering of Au/Cu/Al<sub>2</sub>O<sub>3</sub> and Cu/Ti/Si with Sn/In Interlayer”, *J. Electron. Mater.*, 35,7,1566-1570, U.S.A.
- 112.T. H. Chuang and S. F. Yen, 2006, “Abnormal Growth of Tin Whiskers in a Sn<sub>3</sub>Ag<sub>0.5</sub>Cu<sub>0.5</sub>Ce Solder BGA Package”, *J. Electron. Mater.*, 35,8, 1621-1627, U.S.A.
- 113.T. H. Chuang, 2006, “Rapid Whisker Growth on the Surface of Sn-3Ag-0.5Cu-1.0Ce Solder Joints”, *Scripta Mater.*, 55, 983-986, U.S.A.
- 114.T. H. Chuang and S. F. Yen, 2007, “Abnormal Tin Whisker Growth in Rare Earth Element-Doped Sn-3Ag-0.5Cu Solder Joints, *Mater. Forum*, Vols. 539-543, 4019-4024, U.S.A
- 115.T. H. Chuang, H. J. Lin, and C. C. Chi, 2007, “Rapid Growth of Tin Whiskers on the Surface of Sn-Lu Alloy”, *Scripta Mater.*,56,45-48 , U.S.A.
- 116.T. H. Chuang, 2007,”Temperature Effects on the Whiskers in Rare-Earth Doped Sn-3Ag-0.5Cu-0.5Ce Solder Joints”, *Metall. Mater, Trans.*, 38A, 1048-1055, U.S.A.
- 117.S. Y. Chang, T. H. Chuang, and C. L. Yang, 2007, “Low Temperature Bonding of Alumina/Alumina and Alumona/Copper in Air Using Sn<sub>3.5</sub>Ag<sub>4</sub>Ti(Ce, Ga) Filler”, *J. Electro. Mater.*, 36, 9, 1193-1198, U.S.A.
- 118.T. H. Chuang, H. J. Lin, and C. C. Chi, 2007, “Oxidation-Induced Whisker Growth on the Surface of Sn-6.6(La, Ce) Alloy”, *J. Electron. Mater.*, 36, 12, 1697-1702, U.S.A.
- 119.W. H. Lin, A. T. Wu, S. Z. Lin, T.H. Chuang, and K. N. Tu, 2008, “ Electromigration in the Flip Chip Solder Joint of Sm-8Zn-3Ag on Copper Pads”, *J. Electron. Mater.*, 36,7, 743-759, U.S.A.
- 120.S. Y. Chang, T. H. Chuang, L. C. Tsao, C. L. Yang, and Z. S. Yang, 2008, “Active Soldering of ZnS-SnO<sub>2</sub> Sputtering Targets to Copper Backing Plates using an Sn<sub>3.5</sub>Ag<sub>4</sub>Ti(Ce, Ga) Filler Metal”, *J. Mater. Processing Technology*, 202, 22-26, U.S.A.

121. C. C. Chi, L. C. Tsao, C. W. Tsao, and T. H. Chuang, 2008, "Intermetallic Reactions in Reflowed and Aged Sn-58Bi BGA Packages with Au/Ni/ Cu Pads", *J. Mater. Eng., Perform.*, 17, 1, 134-140, U.S.A.
122. T. H. Chuang, C. C. Chi, and H. J. Lin, 2008, "Formation of Whiskers and Hillocks on the Surface of Sn-6.6RE Alloys", *Metall. Mater. Trans.*, 39A, 604-612, U.S.A.
123. T. H. Chuang, C. C. Jain, and H. M. Wu, 2008, "Intermetallic Reactions in Sn-0.4Co-0.7Cu Solder BGA Packages with ENIG Surface Finish", *J. Electron. Mater.*, 37, 1734-1741, U.S.A.
124. T. H. Chuang and H. J. Lin, 2008, "Size Effect of Rare-Earth Intermetallics in Sn-9Zn-0.5Ce and Sn-3Ag-0.5Cu-0.5Ce Solders of the Growth of Tin Whiskers", *Metall. Mater. Trans.*, 39, 2862-2866, U.S.A.
125. N. W. Liu, C. Y. Liu, H. H. Wang, C. F. Hsu, M. Y. Lai, T. H. Chuang, and Y. L. Wang, 2008, "Focused- Ion- Beam-Based Selective Closing and Opening of Anodic Alumina Nanochannels for the Growth of Nanowire Arrays Comprising Multiple Elements", *Advanced Materials*, 20, 2547-2551, U.S.A.
126. C. Y. Liu, A. Datta, N. W. Liu, Y. R. Wu, H. H. Wang, T. H. Chuang, and Y. L. Wang, 2008, "Enhanced Growth of Anodic Alumina Nanochannels on Ga-ion Pre-irradiated Aluminum", *J. Vac. Sci. Technol. B*, 26, 2, 651-654, U.S.A.
127. C. C. Jain, S. S. Wang, K. W. Huang, and T. H. Chuang, 2009, "Intermetallic Compounds Formed in Sn-20In-2.8Ag Solder BGA Packages with Ag/Cu Pads", *J. Mater. Eng. Perform.*, 18, 2, 211-215, U.S.A.
128. C. C. Jain, S. S. Wang, T. H. Chuang, and S. R. Yang, 2009, "Low Temperature Direct Electroless Nickel Plating on Silicon Wafer", *J. Chin. Inst. Eng.*, 32, 1, 137-140, Taiwan.
129. C. C. Jain, S. S. Wang, H. M. Wu, and T. H. Chuang, 2009, "Intermetallic Reactions in a Sn-51In Solder BGA Packages with Immersion Ag Surface Finish", *J. Chin. Inst. Eng.*, 32, 2, 229-234, Taiwan.
130. T. H. Chuang and H. J. Lin, 2009, "Inhibition of Whisker Growth on the Surface of Sn-3Ag-0.5Cu-0.5Ce Solder Alloyed with Zn", *J. Electron. Mater.*, 38, 420-424, U.S.A.
131. T. H. Chuang and C. C. Chi, 2009, "Effect of Adding Ge on Rapid Whisker Growth of Sn-3Ag-0.5Cu-0.5Ce Solder", *J. Alloys and Compounds*, 480, 974-980, U.S.A.
132. H. J. Lin, J. S. Lin, and T. H. Chuang, 2009, "Electromigration of Sn-3Ag-0.5Cu and Sn-3Ag-0.5Cu-0.5Ce-0.2Zn Solder Joints with Au/Ni(P)/Cu and Ag/Cu Pads", *J. Alloys and Compounds*, 487, 458-465, U.S.A.
133. T. H. Chuang, C. Y. Cheng, and T. C. Chang, 2009, "Evaluations of Whisker Growth and Fatigue Reliability of Sn-3Ag-0.5Cu and Sn-3Ag-0.5Cu-0.05Ce

- Solder Ball Grid Array Packages”, *J. Electron. Mater.*, 38,12, 2762-69, U.S.A.
- 134.T. H. Chuang, C. C. Jain, and S. S. Wang, 2009, “Intermetallic Reactions in In-3Ag Solder Ball Grid Array Packages with Au/Ni/Cu and Ag/Cu Pads”, *J. Mater. Eng. Perform.*, 18,8,1133-1139, U.S.A.
- 135.S. Y. Chang, L. C. Tsao, T. Y. Li, and T. H. Chuang, 2009, “Joining 6061 Aluminum Alloy with Al-Si-Cu Filler Metals”, *J. Alloys and Compounds*, 488, 174-180, U.S.A.
- 136.H. J. Lin and T. H. Chuang, 2010, “Effects of Ce and La Additions on the Microstructure and Mechanical Properties of Sn-9Zn Solder Joints”, *J. Electron. Mater.*, 39,2,200-208, U.S.A.
- 137.Y. Y. Shiue and T. H. Chuang, 2010, “Effect of La Addition on the Interfacial Intermetallics and Bonding Strengths of Sn-58Bi Solder Joints with Au/Ni/Cu Pads”, *J. Alloys and Compounds*, 491, 610-617, U.S.A.
- 138.H. J. Lin and T. H. Chuang, 2010, “The Effect of 0.5 wt.%Ce Additions on the Electromigration of Sn9Zn BGA Solder Packages with Au/Ni(P)/Cu and Ag/Cu Pads”, *Materials Letters*, 64, 506-509, U.S.A.
- 139.H. J. Lin and T. H. Chuang, 2010, “Effects of Ce and Zn Additions on the Microstructure and Mechanical Properties of Sn-3Ag-0.5Cu Solder Joints”, *J. Alloys and Compounds*, 500, 167-174, U.S.A.
- 140.C.C.Jain, C.L.Chen, H.J.Lai an T.H.Chuang, 2011, “The Inhibition of Tin Whiskers on the Surface of Sn-8Zn-3Bi-0.5Ce Solders”, *J. Mater. Eng. Perfor.*, 1043-1048, U.S.A.
- 141.T.H.Chuang, M.W.Wu, S.Y.Chang, S.F.Ping, and L.C.Tsao, 2011, “Strengthening Mechanism of Nano-AlO Particles Reinforced Sn3.5Ag0.5Cu Lead-Free Solder”, *J. Mater. Sci.: Mater. Electr.*, 1021-1027, U.S.A.
- 142.T.H.Chuang and H.F.Wu, 2011, “Effects of Ce Addition on the Microstructure and Mechanical Properties of Sn-58Bi Solder Joints”, *J. Electron. Mater.*, 40, 1, 71-77, U.S.A.
- 143.T.H.Chuang and C.C. Jain, 2011, “Morphology of the Tin Whiskers on the Surface of a Sn-3Ag-05Cu-0.5Nd”, *Metall. Mater. Trans*, 42A,684-691,, U.S.A.
- 144.H. J. Lin and T. H. Chuang, 2011, “Interfacial Microstructure and Bonding Strength of Sn-3Ag-0.5Cu and Sn-3Ag-0.5Cu-0.5Ce-XZn Solder BGA Packages with Immersion Ag Surface Finish”, *Microelectronics Reliability*, 51, 445-452, U.S.A.
- 145.S. Y. Chang, C. C. Jain, T. H. Chuang, L. P. Feng, L. C. Tsao, 2011, “Effect of Addition of TiO(2) Nanoparticles on the Microstructure, Microhardness and Interfacial Reactions of Sn3.5AgXCu Solder”, *Mater. And Design*, 10, 4720-4727, U.S.A.

146. J.Y. Chang, R.S. Cheng, K.S. Kao, T.C. Chang, and T.H. Chuang, 2012, "Reliable Microjoints formed by Solid Liquid Interdiffusion (SLID) Bonding within a Chip-Stacking Architecture", *IEEE Trans. Compon. Packag. Manufact. Technol.*, 2, 6, 979-984, U.S.A.
147. T.H. Chuang, H.C. Wang, C.H. Tsai, C.C. Chang, C.H. Chuang, J.D. Lee, and H.H. Tsai, 2012, "Thermal-Stability of Grain Structure and Material Properties in an Annealing Twinned Ag-8Au-3Pd Alloy Wire", *Scripta Mater.*, 67, 605-608, U.S.A.
148. T.H. Chuang, C.H. Tsai, H.C. Wang, C.C. Chang, C.H. Chuang, J.D. Lee, and H.H. Tsai, 2012, "Effects of Annealing Twins on the Grain Growth and Mechanical Properties of Ag-8Au-3Pd Bonding Wires", *J. Electron. Mater.*, 41, 11, 3215-3222, U.S.A.
149. T.H. Chuang, C.C. Chang, C.H. Chuang, J.D. Lee, and H.H. Tsai, 2013, "Formation and Growth of Intermetallics in an Annealing Twinned Ag-8Au-3Pd Wire Bonding Package during Reliability Tests", *IEEE Trans. Compon. Packag. Manufact. Technol.*, 3, 1, 3-9, U.S.A.
150. T.H. Chuang, H.C. Wang, C.H. Chuang, J.D. Lee, and H.H. Tsai, 2013, "Effect of Annealing Twins on Electromigration in Ag-8Au-3Pd Bonding Wires", *J. Electron. Mater.*, 42, 3, 454-551, U.S.A.
151. C.L. Yang, H.J. Lau, J.D. Hwang, and T.H. Chuang, 2013, "Diffusion Soldering of Pb-Doped GeTe Thermoelectric Modules with Cu Electrodes Using a Thin-Film Sn Interlayer", *J. Electron. Mater.*, 42, 3, 359-365, U.S.A.
152. C.L. Yang, H.J. Lau, J.D. Hwang, and T.H. Chuang, 2013, "Diffusion Soldering of Bi<sub>0.5</sub>Sb<sub>1.5</sub>Te<sub>3</sub> Thermoelectric Modules with Cu Electrodes Using a Thin-Film Sn Interlayer", *J. Mater. Eng. Perform.*, 22, 7, 2013-2029, U.S.A.
153. T.H. Chuang, H.C. Wang, C.H. Chuang, H.J. Lin, J.D. Lee, and H.H. Tsai, 2013, "Surface Reconstruction of an Annealing Twinned Ag-8Au-3Pd alloy Wire under Current Stressing", *Metall. Mater. Trans.*, 44A, 5106-5112, U.S.A.
154. Y.Y. Shiue and T.H. Chuang, 2013, "Effects of La Addition on Microstructure and Mechanical Properties of Sn-58Bi Solders Joints with OSP Pads", *Canadian Metallurgical Quarterly*, 52, 285-294, Canada.
155. T.H. Chuang, H.J. Lin, C.H. Chuang, Y.Y. Shiue, F.S. Shieu, Y.L. Huang, P.C. Hsu, J.D. Lee, and H.H. Tsai, 2014, "Thermal Stability of Grain Structure and Material Properties in an Annealing Twinned Ag-4Pd Alloy Wire", *J. Alloy Compounds*, 615, 891-898, U.S.A.
156. T.H. Chuang, W.T. Yeh, C.H. Chuang, J.D. Hwang, 2014, "Improvement of Bonding Strength of a (Pb,Sn)Te-Cu Contact Manufactured in a Low Temperature SLID-Bonding Process", *J. Alloy Compounds*, 613, 46-54, U.S.A.

157. T.H. Chuang, H.J. Lin, C.H. Chuang, W.T. Yeh, J.D. Hwang, and H.S. Chu, 2014, "Solid Liquid Interdiffusion Bonding of (Pb, Sn)Te Thermoelectric Modules with Cu Electrodes Using a Thin-Film Sn Interlayer", *J. Electronic. Mater.*, 43, 12, 4610-4618, U.S.A.
158. T.H. Chuang, H.J. Lin, C.H. Chuang, C.H. Tsai, J.D. Lee, and H.H. Tsai, 2014, "Durability to Electromigration of an Annealing-Twinned Ag-4Pd Alloy Wire under Current Stressing", *Metall. Mater. Trans.*, 45A, 5574-5583, U.S.A.
159. C.C. Yu, P.C. Su, S.J. Bai, and T.H. Chuang, 2014, "Nickel-Tin Solid-Liquid Inter-Diffusion Bonding", In *J. Precision Engineering and Manufacturing*, 15, 1, 143-147, U.S.A.
160. T.H. Chuang, H.J. Lin, H.C. Wang, C.H. Chuang, and C.H. Tsai, 2015, "Mechanism of Electromigration in Ag-Alloy Bonding Wires with Different Pd and Au Content", *J. Electronic. Mater.*, 44, 2, 623-629, U.S.A.
161. J.Y. Chang, S.Y. Huang, C.C. Lee, T.H. Chuang, and T.C. Chang, 2015, "Influence of Glass Transition Temperature of Underfill on the Stress Behavior and Reliability of Microjoints within a Chip Stacking Architecture", *J. Electron. Packaging*, 137, 031007-1-8, U.S.A.
162. S.L. Cheng, J.G. Lin, and T.H. Chuang, 2015, "Spin Injection Induced Phase Transition in YBa<sub>2</sub>Cu<sub>3</sub>O<sub>7- $\delta$</sub> /Nd<sub>0.35</sub>Sr<sub>0.65</sub>MnO<sub>3</sub> Bilayer", *J. Appl. Phys.*, 117, 17E312-1-3, U.S.A.
163. Yan-Cheng Lin, Chung-Lin Yang, Jing-Yi Huang, Chao-Chi Jain, Jen-Dong Hwang, Hsu-Shen Chu, Sheng-Chi Chen, Tung-Han Chuang (2016, Jul). Low-Temperature Bonding of Bi<sub>0.5</sub>Sb<sub>1.5</sub>Te<sub>3</sub> Thermoelectric Material with Cu Electrodes Using a Thin-Film In Interlayer. *Metallurgical and Materials Transactions A*, 47(9), 4767-4776.
164. C.H. Tsai, C.H. Chuang, H.H. Tsai, J.D. Lee, Dennis Chang, H.J. Lin, T.H. Chuang (2016). Materials Characteristics of Ag-alloy Wires and their Applications in Advanced Packages. *IEEE Transactions on Components, Packaging and Manufacturing Technology*, 6(2), 298-305.
165. H. Sun, C.K. Wen, S.C. Chen, T.H. Chuang, M.A.P. Yazdi, F. Sanchette, A. Billard (2016). Microstructures and Optoelectronic Properties of Cu<sub>x</sub>O Films Deposited by High-Power Impulse Magnetron Sputtering. *Journal of Alloys and Compounds*. *J. Alloy Compounds*, 688, 672-678.
166. S.C. Chen, C.H. Wang, H. Sun, C.K. Wen, C.F. Lu, C.L. Tsai, Y.K. Fu, T.H. Chuang (2016). Microstructure, Electrical and Magnetic Properties of (Ga, Co)-ZnO Films by Radio Frequency Magnetron Co-Sputtering. *Surface and Coatings Technology*. 303, 203-208.
167. Y.C. Lin, K.T. Lee, J.D. Hwang, H.S. Chu, C.C. Hsu, S.C. Chen, and T.H. Chuang, 2016, "Solid Liquid Interdiffusion Bonding of Zn<sub>4</sub>Sb<sub>3</sub> Thermoelectric

- Materials with Cu Electrodes”, *J. Electronic. Mater.*, 45, 10, 4935-4942.
- 168.H. Sun, S.C. Chen, C.K. Wen, T.H. Chuang, M.A.P. Yazdi, F. Sanchette, and A. Billard, 2017, “P-type Cuprous Oxide Thin Films with High Conductivity Deposited by High Power Impulse Magnetron Sputtering”, *Ceramics International*, 43, 6214-6220.
- 169.S.L. Ou, S.C. Chen, Y.C. Lin, P.C. Lin, C.K. Wen, and T.H. Chuang, 2017, “Characterization and Crystallization Kinetics of Sputtered NiSi Thin Films for Blue Laser Optical Recording Application”, *Vacuum*, 140, 144-148.
- 170.H. Sun, S.C. Chen, S.W. Hsu, C.K. Wen, T.H. Chuang, and X. Wang, 2017, “Microstructures and Optoelectronic Properties of Nickel Oxide Films Deposited by Reactive Magnetron Sputtering at Various Pressures of Oxygen Environment”, *Ceramics International*, 43, S369-S375.
- 171.S.L Cheng, T.H. Chuang, and J.G. Lin, 2017, “Spin Diffusion Length in Ferromagnet/Superconductor Bilayers”, *IEEE Trans. Magnetics*, 53, 11, P. 9000104.
- 172.C.H. Chen, Y.C. Lin, Y.T. Shih, S.C. Chen, C.H. Tsai, S.C. Wang, and T.H. Chuang, 2018, “Evaluation of Corrosion Resistance of Ag-alloy Bonding Wires for Electronic Packaging”, *IEEE Trans. Compon. Packag. Manufact. Technol.*, 8,1, 146-153.
- 173.Y.C. Lin, C.H. Chen, Y.Z. He, S.C. Chen, and T.H. Chuang, 2018, “Electrolytic Migration of Ag-Pd Alloy Wires with various Pd Contents”, *J. Electronic. Mater.*, 47, 7, 3634-3638.
- 174.L.W. Chen, C.Wang, Y.C. Liao, C.L. Li, T.H. Chuang, and C.H. Hsueh, 2018, “Design of Diffusion Barrier and Buffer Layers for  $\beta$ -Zn<sub>4</sub>Sb<sub>3</sub> Mid-temperature Thermoelectric Modules”, *J. Alloy Compounds*, 762, 631-636.
- 175.T.H. Chuang and C.H. Chen, 2018, “Mechanism of the Electromigration in Ag-Pd Alloy Bonding Wores”, *Metall. Mater. Trans.*, 49A, 5904-5910.
- 176.H. Sun, S.C. Chen, W.C. Peng, C.K. Wen, X. Wang, and T.H. Chuang, 2018 “The Influence of Oxygen Flow Ratio on the Optoelectronic Properties of P-Type NiOx Films Deposited by Ion Beam Assisted Sputtering”, *Coatings*, (2018) 8, 168; doi: 10.3390/coatings 8050168.
- 177.C. K. Wen, Y.Q. Xin, S. C. Chen, T.H. Chuang, P.J. Chen, and H. Sun, 2019, “Comparison of Microstructure and Optoelectronic Properties of NiO : Cu Thin Films Deposited by Ion Beam Assisted RF Sputtering in Different Gas Atmospheres”, *Thin Solid Films*, 677, 103-108.
178. Y.C.Lin, C.H. Chen\*, J.H. Yuan, Y.K. Sun, K.Y. Chiu, P.I. Lee, W.H. Chang, and T.H. Chuang, 2019, “Isothermal Solidification Bonding of Bi<sub>2</sub>Te<sub>2.55</sub>Se<sub>0.45</sub> Thermoelectric Material with Cu Electrodes”, *Eng. & Technology Res.*, 3 (3).
- 179.H. Sun, S.C. Chen, C.K. Wen, Y.W. Lin, C.K. Wen, T.H. Chuang, X. Wang, S.S.

- Lin, and M.J. Dai, 2019, "Electrical and Magnetic Properties of (Al, Co) co-doped ZnO Films deposited by RF Magnetron Sputtering", *Surface and Coating Technology*, 359, 390-395.
180. B.H. Kuo, D.C. Tsai, Y.L. Huang, P.C. Hsu, T. H. Chuang, J.D. Lee, H.H. Tsai, H. Tsai, L. Huang, and F.S. Shieu, 2019, "Effect of Alloying Au on the Microstructure, Mechanical and Electrical Properties of Ag-based Alloy Wires", *J. Materials Science: Materials in Electronics*, 30: 9396-9409.
181. J.H. Yuan and T.H. Chuang, 2019, "Luminous Efficiency of Pd-doped Ag-alloy Wire Bonded LED Package after Reliability Tests", *Mater. Sci. Forum*, 960, 221-230.
182. S.L. Cheng, C.H. Du, T.H. Chuang, and J.G. Lin, 2019, "Atomic Replacement Effects on the Band Structure of Doped Perovskite Thin Films", *Scientific Reports*, (2019) 9:7828/10.1038/s41598-019-44104-7.
183. C.H. Chen, J. Hoffer, Y.C. Lin, C.Y. Lin, and T.H. Chuang, Cu/Al clad and Ag-4Pd ribbon bonding for high power IC packages, *Sensor & Transducer*, 235, 7 (2019) 37-42.
184. B.H. Kuo, P.C. Hsu, J.D. Lee, F.S. Shieu, H.H. Tsai, H. Tsai, Y.L. Huang, D.C. Tsai, and T.H. Chuang, and 2019, "Au-induced Improvements in the Grain Stability and Mechanical Properties of Ag-based Alloy Wires under Electrical Current Stressing", *J. Materials Science: Materials in Electronics*, published online 12 August 2019.
185. J.H. Yuan and T.H. Chuang, 2020, "Lumen Maintenance of Ternary Ag-alloy Bonded LED Package after Reliability Tests", *Mater. Sci. Forum*, accepted.
186. Y.J. Wu, S.C. Hsu, Y.C. Lin, Y. Xu, T.H. Chuang, and S.C. Chen, "Study on thermoelectric Property Optimization of Mixed-phase Bismuth Telluride Thin Films Deposited by Co-evaporation Process", *Surface & Coatings Technology*, 394 (2020) 125694.
187. T.H. Chuang, S.W. Hsu, Y.C. Lin, W.T. Yeh, C.H. Chen, P.I. Lee, P.C. Wu, and H.P. Cheng, 2020 "Improvement of Sn-3Ag-0.5Cu soldered joints between Bi<sub>0.5</sub>Sb<sub>1.5</sub>Te<sub>3</sub> thermoelectric material and a Cu electrode, *J. Electro. Mater.*, 49, 2 (2020) 3391-3399.
188. J.H. Yuan and T.H. Chuang, 2020, "Bondability of Pd and Au Containing Ag-alloy Wires on Au Pads for LED Package", *IEEE Trans. Compon. Packag. Manufact. Technol.*, 10,2 (2020) 191-196.
189. C.H. Chen, Y.C. Lin, A. Groth, Y.C. Lai, C.Y. Lin, H.M. Chang, Tung-Han Chuang, 2020, "Ultrasonic Bonding of Ag and Ag-alloy Ribbon – an innovative alternative for High Power IC Packages", *IEEE Trans. Compon. Packag. Manufact. Technol.*, 10, 6 (2020) 1061-1068.
190. T.H. Chuang, P.C. Wu and Y.C. Lin, 2020, "Lattice buffer effect of Ti film on

- the epitaxial growth of Ag nanotwins on Si substrates with various orientations”, *Mater. Character.*, 167 (2020) 110509, 1-8.
- 191.T.H. Chuang, P.I. Lee, and Y.C. Lin, 2020, “An Optimized Ag-5Pd-3.5Au Bonding Wire for the Resistance of Ag Ion Migration in LED Packages”, *IEEE Trans. Compon. Packag. Manufact. Technol.*, 10, 12 (2020) 1989-1995.
- 192.T.H. Chuang, C.K. Wen, M.H. Liao, F. Liu, H. Sun, S.C. Chen, 2020, ”P-type semi-transparent conductive NiO films with high deposition rate produced by superimposed high power impulse magnetron sputtering”, *Ceramics International*, 46 (2020) 27695-27701.
- 193.S.C. Hsu, J.Y. Hong, C.L. Chen, S.C. Chen, J. H. Zhen, Y. Y. Chen, and T.H. Chuang, “The structures and thermoelectric properties of Zn-Sb alloy films fabricated by electron beam evaporation through an ion beam assisted deposition”, *Appl. Surface Science*, on line, 2020.
- 194.T.H. Chuang, S.W. Hsu, and C.H. Chen, “Intermetallic Compounds at the Interface of Ag-Pd Alloy Stud Bumps with Al Pads”, *IEEE Trans. Compon. Packag. Manufact. Technol.*, 10, 10 (2020) 16571665.
- 195.C.H. Chen, S.W. Hsu, and T.H. Chuang, 2021,” Interfacial Reactions of Ag and Ag-4Pd Stud Bumps with Sn-3Ag-0.5Cu Solder for Flip Chip Packaging”, *J. Electronic Mater.*, 50, 1 (2021) 249-257.
- 196.P.C. Wu, P.I. Lee, Y.C. Lai, and T.H. Chuang, 2021, “Characterization of (111)-Oriented Ag Nano-twinned Film on (111) Si Substrates”, *Int. J. Mining, Mater. and Metall. Eng.*, (2021) 16-21.
- 197.C.H. Chen, Y.C. Lai, and T.H. Chuang, 2021, “Grain Growth and Twin Formation in a Ag-4Pd Alloy Ribbon after Annealing Treatments”, *J. Alloy Compounds*, 863 (2021) 158619.
- 198.Y.C. Lai, P.C. Wu, and T.H. Chuang, 2021, “Characterization of Interfacial Structure for Low-Temperature Direct Bonding of Si Substrates Sputtered with Ag Nanotwinned Films”, *Mater. Character.*, 175 (2021) 111060, 1-12.
- 199.C.H. Chen, W.T. Yeh, and T.H. Chuang, 2021, “Interfacial Reactions in Zn<sub>4</sub>Sb<sub>3</sub>/Titanium Diffusion Couples”, *J. Alloy Compounds*, 881 (2021) 160630.
- 200.Y.C. Lin, P.I. Lee, P.C. Wu, C. H. Chen, T. H. Chuang. “Effects of grain size on the Ag dissolution and ion migration of Ag-4Pd alloy wires.” *Journal of Electronic Materials*, 10.1007/S11664-021-09119-9, 2021.
- 201.P.C. Wu, Y.C. Lai, P.I. Lee, M.T. Chiang, Justin Chou, and T.H. Chuang, 2021, “Sputtering of Ag (111) nanotwinned Films on Si (100) Wafers for Backside Metallization of Power Devices”, *J. Mater. Sci.: Mater. In Electronics*, (2021) 32: 7319-7329.
- 202.P.C. Wu, Y.C. Lai, T.H. Chuang. “Enhancing effect of substrate bias on nanotwin formation of sputtered Ag thin films.” *Journal of Materials Science: Materials*



in Electronics, (2021) 32: 21966-21973.

203. Y.C. Lai, P.C. Wu, T.H. Chuang. "Thermal Stability of Grain Structure for Ag Nanotwinned Films Sputtered with Substrate Bias." *Materialia*, 20 (2021)101215.
204. P.C. Wu, T.H. Chuang. "Evaporation of Ag nanotwinned films on Si substrates with ion beam assistance." *IEEE Transactions on Components, Packaging and Manufacturing Technology*, 11, 22 (2021) 2222-2228.
205. Chun-Hao Chen, Pei-Ing Lee, Wei-Ting Yeh, and Tung-Han Chuang, "Intermetallic Growth at the Interfaces between Zn<sub>4</sub>Sb<sub>3</sub> Thermoelectric Material and Various Metallic Electrodes, *Metall. Mater. Trans. A*, 53A (2022) 136-146.
206. P.I. Lee, P.C. Wu, T.H. Chuang. "Formation on high density (111) textured nanotwins in evaporated Ag thin films through post-deposition ion bombardment." *IEEE Transactions on Components, Packaging and Manufacturing Technology*, 12, 1, (2022) 37-41.
207. P.I. Lee, P.C. Wu, T.H. Chuang\*. "Atomic Migration of Cu in Ti/Ni/Cu/Ag Backside Metallization on Si Substrate." *Journal of Electronic Materials*, (2022) Published online: 20 April 2022..
208. Chun-Hao Chen, Pei-Ing Lee, and Tung-Han Chuang "Microstructure Evolution and Failure Mechanism of Electromigration in Ag-alloy Bonding Wire", *J. Alloy Compounds*, 913 (2022) 165266.
209. P.I. Lee, T.H. Chuang, Y.C. Lai, and P.C. Wu, "Low Temperature Direct Bonding of 3D-IC Packages and Power IC Modules using Ag Nanotwinned Thin Films", *Int. J. Mining, Mater. and Metall. Eng.*, accepted (2022).
210. P.I. Lee, Y.H. Chen, P.C. Wu, T.H. Chuang, "Evaporating and Sputtering of High Density Ag Nanotwinned Films on GaAs Compound Semiconductor Wafers", *IEEE Transactions on Components, Packaging and Manufacturing Technology*, accepted (2022).
211. Pei-Ing Lee, Yan-Cheng Lin, Chun-Hao Chen, and Tung-Han Chuang, "Mechanism of the Electrolytic Migration between Ag-4Pd Wire Couple under Current Stressing", *Metall. Mater. Trans.*, submitted.
212. P.I. Lee, P.C. Wu, Z.H. Yang, and T.H. Chuang, "Evaporating and Sputtering of High-Density Ag Nanotwinned Films on SiC Substrates, *Journal of Electronic Materials*, submitted.
213. Z.H. Yang, P.I. Lee, and T.H. Chuang, "Effects of Substrate Bias on the Sputtering of High Density (111)- Nanotwinned Cu Films on SiC Chips" *Materialia*, submitted.
214. Chun-Hao Chen, Pei-Ing Lee, and Tung-Han Chuang "Mechanism of Creep

Failure under Dynamic Mechanical Analysis Tests for Ag-4Pd Bonding Wire”,  
Mater. Sci. Eng. A, submitted.