

研究著作:

(A)期刊論文：Impact factor based on 2012 ISI JCR

*表示為 Corresponding Author

1. **Pin-Yi Chen***, Cheng-Sao Chen, Chi-Shun Tu, and Ting-Lun Chang, Large E-field induced strain and polar evolution in lead-free Zr-doped 92.5%(Bi_{0.5}Na_{0.5})TiO₃-7.5%BaTiO₃ ceramics. *Journal of the European Ceramic Society*, (Article in press) (2014) SCI/Impact Factor : 2.360 , 1/27 , (Materials Science, Ceramics).
2. **Pin-Yi Chen***, Cheng-Sao Chen, Chi-Shun Tu, Ting-Lun Chang, and Chih-Kang Chai, The effects of sintering atmosphere on microstructures and electrical properties of lead-free (Bi_{0.5}Na_{0.5})TiO₃-based ceramics. *Ceramics International*, 40, 9591-9598, (2014) SCI/Impact Factor : 1.789.
3. **Pin-Yi Chen***, Cheng-Sao Chen, and Tsung-Her Yeh, Organic multivologen electrochromic cells for a color electronic display application. *Journal of Applied Polymer Science*, 131, 40485, (2014) SCI/Impact Factor : 1.395.
4. J. Anthoniappen*, C.-H. Lin, C. S. Tu, **P.-Y. Chen**, C.-S. Chen, S.-J. Chiu, H.-Y. Lee, S.-F. Wang, and C.-M. Hung, Enhanced piezoelectric and dielectric responses in 92.5%(Bi_{0.5}Na_{0.5})TiO₃ -7.5%BaTiO₃ Ceramics. *Journal of the American Ceramic Society*, 97[6], 1890-1894, (2014) SCI/Impact Factor : 2.107.
5. **Pin-Yi Chen**, Cheng-Sao Chen*, Chi-Shun Tu, Chun-Der Cheng, Jyh-Shiarn Cherng, Relaxor effect on electric field induced large strain in (1-x)(Bi_{0.5}Na_{0.5})TiO₃-xBaTiO₃ lead-free piezoceramics. *Ceramics International*, 40, 6137-6142, (2014) SCI/Impact Factor : 1.789.
6. C. S. Chen*, **P. Y. Chen**, and C. S. Tu, Polar nanoregions and dielectric properties in high-strain lead-free 0.93(Bi_{1/2}Na_{1/2})TiO₃-0.07BaTiO₃ piezoelectric single crystals. *Journal of Applied Physics* 115, 014105, (2014) SCI/ Impact Factor : 2.210.
7. C. S. Chen, C. S. Tu*, **P. Y. Chen**, Y. Ting, S. J. Chiu, C. M. Hung, H. Y. Lee, S. F. Wang, J. Anthoniappen, V. H. Schmidt, and R. R. Chien, Dielectric properties in lead-free piezoelectric (Bi_{0.5}Na_{0.5})TiO₃-BaTiO₃ single crystals and ceramics. *Journal of Crystal Growth*.

393, 129-133, (2014) **SCI/Impact Factor** : 1.552.

8. Z.-R. Xu, C. S. Tu*, C.-M.Hung, Y. Ting, and **P.-Y. Chen**, Magnetic and photovoltaic properties of calcium-doped BiFeO₃ Ceramic. *IEEE Transactions on Magnetics*, vol. 50, NO. 1, 2500304, (2014) **SCI/Impact Factor** : 1.422.
9. **Pin-Yi Chen**, Chen-Chia Chou*, Cheng Nan Chen, Cheng-Sao Chen, Haydn Chen, The effects of aliovalent cations doping on electric-field induced strain and microstructures of (Bi_{0.5}Na_{0.5})_{0.94}Ba_{0.06}TiO₃ lead-free piezoceramics, *Ceramics International*, 39, s129-133, (2013) **SCI/Impact Factor** : 1.789.
10. Cheng-Sao Chen, Chen-Chia Chou*, Yung-Shun Lin, **Pin-Yi Chen**, Haydn Chen, Effects of CaTiO₃ addition on microstructures and electrical properties of Na_{0.52}K_{0.48}NbO₃ lead-free piezoelectric ceramics, *Ceramics International*, 39, s125-128, (2013) **SCI/Impact Factor** : 1.789.
11. Brianti Satrianti Utami, Cheng-Nan Chen, Chen-Chia Chou*, Jaw-Yeu Liang, **Pin-Yi Chen**, Cheng-Sao Chen, Temperature dependent phase transition of (Bi_{0.5}Na_{0.5})_{1-x}Ba_xTiO₃ Lead-free piezoelectrics, *Ceramics International*, 39, s175-179, (2013) **SCI/Impact Factor** : 1.789.
12. Cheng-Sao Chen*, **Pin-Yi Chen**, Chen-Chia Chou, and Chang-Shun Chen, Microwave sintering and grain growth behavior of nano-grained BaTiO₃ materials, *Ceramics International*, 38, s117–120, (2012) **SCI/Impact Factor** : 1.789.
13. **Pin-Yi Chen***, Cheng-Sao Chen, Chen-Chia Chou, Teung-Yuen Tseng, and Haydn Chen, Microstructures and electrical properties of lead-based PBZNZT and lead-free BNKT piezoelectric ceramics using microwave sintering “, *Current Applied Physics*, 11, s110-s119, (2011) **SCI/Impact Factor** : 1.814.
14. **Pin-Yi Chen***, Chen-Chia Chou, Teung-Yuen Tseng, and Haydn Chen, Effects of second phase and defect on electrical properties in Bi_{0.5}Na_{0.5-x}K_xTiO₃ lead-free piezoelectric ceramics, *Advanced Materials Research*, 284-286, 1343-1348, (2011) (EI).
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Phase stability and dielectric properties of low temperature fired BaTi₄O₉ microwave material with copper electrodes in reducing atmosphere, *Advanced Materials Research*, 284-286, 1466-1470, (2011) (EI).

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17. **Pin-Yi Chen***, Chen-Chia Chou, Teung-Yuen Tseng, and Haydn Chen, Second phase and defect formation in Bi_{0.5}Na_{0.5-x}K_xTiO₃ ceramics , *Jpn. J. Appl. Phys*, 49, 061506.1-7 (2010) SCI /Impact Factor : 1.067.
18. **Pin-Yi Chen***, Chen-Chia Chou, Teung-Yuen Tseng, and Haydn Chen, Impedance spectroscopic study on Li-doped BNKT piezoelectric ceramics”. *Ferroelectrics*, 381, 100-104, (2009) SCI. /Impact Factor : 0.415
19. **Pin-Yi Chen***, Chen-Chia Chou, Teung-Yuen Tseng, and Haydn Chen, Comparative study between conventional and microwave sintered lead-free BNKT ceramics” *Ferroelectrics*, 381, 196-200, (2009) SCI/Impact Factor : 0.415.
20. Chen-Liang Li, **Pin-Yi Chen**, and Chen-Chia Chou*, Dielectric behavior and microstructures of modified Pb(Zn_{1/3}Nb_{2/3})O₃ relaxor ferroelectric ceramics under different columbite methods ”, *Ferroelectrics*, 355, 264 - 268, (2007) SCI/Impact Factor : 0.415.

(B) 研討會論文

(1). 國際研討會論文

- 1、**Pin-Yi Chen***, Cheng-Sao Chen, Chi-Shun Tu, and Ting-Lun Chang, E-field-induced large strain mechanism and temperature-dependent properties in Zr doped 92.5%(Bi_{0.5}Na_{0.5})TiO₃-7.5%BaTiO₃ lead-free ceramics, 5th International Congress on Ceramics (ICC-5), Beijing International Convention Center, Beijing, China, Aug. 17th-21st, (2014).
- 2、Cheng-Sao Chen*, **Pin-Yi Chen**, Chi-Shun Tu, and Chih-Kang Chai, Electrical properties of

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 - 4、Chih-Kang Chai, Cheng-Sao Chen, **Pin-Yi Chen***, and Chi-Shun Tu, Effect of sintering processes on electrical properties of lead-free (Bi_{0.5}Na_{0.5})TiO₃-BaTiO₃ ceramics, International Union of Materials Research Societies – International Conference on Electronic Materials 2014 (IUMRS-ICEM 2014), TWTC Nangang Exhibition Hall, Taipei, Taiwan, June 10-14, (2014).
 - 5、Cheng-Sao Chen, **Pin-Yi Chen***, Chi-Shun Tu, Effects of domain on electric field induced large strain behavior of (1-x)(Bi_{0.5}Na_{0.5})TiO₃ - xBaTiO₃ lead-free piezoceramics, The 19th International Conference on Solid State Ionics (SSI-19), Kyoto, Japan, June 2-7, (2013).
 - 6、**Pin-Yi Chen***, Cheng-Sao Chen, Chi-Shun Tu, Atmosphere effects on microstructures and electrical properties of lead-free (Bi_{0.5}Na_{0.5})TiO₃-based ceramics, The 19th International Conference on Solid State Ionics (SSI-19), Kyoto, Japan, June 2-7, (2013).
 - 7、**Pin-Yi Chen***, Chen-Chia Chou, Cheng Nan Chen, Cheng-Sao Chen, Haydn Chen, The effects of aliovalent cations doping on electric-field-induced strain and microstructures of (Bi_{0.5}Na_{0.5})_{0.94}Ba_{0.06}TiO₃ lead-free piezoceramics, *The 8th Asian Meeting on Electroceramics*, (AMEC-8), Penang, Malaysia, July 1-5, (2012).
 - 8、**Pin-Yi Chen***, Tsung-Her Yeh, and Yu-Chou Yeh, Electrochromism of the multi-viologen cells for a new color electronic display, *The 2011 International Conference on Advanced Electromaterials* (ICAE2011), Jeju, Korea, November 7-10, (2011).
 - 9、**Pin-Yi Chen***, Chen-Chia Chou, Teung-Yuen Tseng, and Haydn Chen, Effects of second phase and defect on electrical properties in Bi_{0.5}Na_{0.5-x}K_xTiO₃ lead-free piezoelectric ceramics,

(AEMT-2011), Sanya, China, July 29-31, (2011).

- 10、Cheng-Sao Chen*, **Pin-Yi Chen**, Chen-Chia Chou, Kuei-Chih Feng, and Li-Wen Chu, Phase stability and dielectric properties of low temperature fired BaTi₄O₉ microwave material with copper electrodes in reducing atmosphere, (AEMT-2011), Sanya, China, July 29-31, (2011).
- 11、**Pin-Yi Chen***, Chen-Chia Chou, Teung-Yuen Tseng , Haydn Chen, “Conductivity Behavior at Grain and Grain Boundary for Piezoelectric Ceramics Using Complex Impedance Spectroscopy”, the 7th Asian Meeting on Ferroelectrics and the 7th Asian Meeting on ElectroCeramics (AMF-AMEC-2010), Jeju, Korea, June 28 – July 1, (2010).
- 12、**Pin-Yi Chen***, Chen-Chia Chou, Teung-Yuen Tseng , Haydn Chen, “Effects of Microstructure and Defect on Electrical properties in Bi_{0.5}Na_{0.5-x}K_xTiO₃ Lead-Free Piezoelectric Ceramics”, the 7th Asian Meeting on Ferroelectrics and the 7th Asian Meeting on ElectroCeramics (AMF-AMEC-2010), Jeju, Korea, June 28 – July 1, (2010).
- 13、**Pin-Yi Chen***, Chen-Chia Chou, Teung-Yuen Tseng , Haydn Chen, “Impedance Spectroscopic Study on Li-Doped BNKT Piezoelectric Ceramics”, the 6th Asian Meeting on Ferroelectrics (AMF-6), Taipei, Taiwan, August 2-6, (2008).
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- 15、Chen-Liang Li, **Pin-Yi Chen**, and Chen-Chia Chou, “Dielectric behavior and microstructures of modified Pb(Zn_{1/3}Nb_{2/3})O₃ relaxor ferroelectric ceramics under different columbite methods”, 5th Asian Meeting on Ferroelectrics (AMF-5), Noda, Japan, September 2~5, (2006).

(2). 國內研討會論文

- 1、陳柏翰, **陳炳宜**, 刮刀成型技術研製具有大應變 BNT7.5BT-x%Zr 之壓電喇叭, 第 12 屆台塑企業應用工程技術研討會, 泰山, 明志科技大學, 2014/6/27。
- 2、李宏彥, **陳炳宜**, 探討 $(1-x)[92.5\%(\text{Bi}_{0.5}\text{Na}_{0.5})\text{TiO}_3-7.5\%\text{BaTiO}_3] -x\text{BiFeO}_3$ 壓電陶瓷材料

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- 3、張庭綸，柴志剛，陳炳宜，氣氛燒結無鉛壓電陶瓷材料之缺陷機制探討，第 11 屆台塑企業應用工程技術研討會，林口，長庚大學，2013/6/28。
- 4、柴志剛，張庭綸，陳炳宜，雙模態無鉛壓電陶瓷致動元件之製備與研究，第 11 屆台塑企業應用工程技術研討會，林口，長庚大學，2013/6/28。
- 5、柴志剛，張庭綸，陳炳宜，陳正劭，杜繼舜，無鉛鈦酸鈹鈉鉬壓電陶瓷之電域結構對電場誘發應變行為影響研究，2013 中國材料科學學會年會，桃園，中央大學，2013/10/18-10/19。
- 6、張庭綸，柴志剛，陳炳宜，陳正劭，杜繼舜，氣氛燒結對無鉛鈦酸鈹鈉壓電陶瓷的微觀結構和電性影響研究，2013 中國材料科學學會年會，桃園，中央大學，2013/10/18-10/19。
- 7、陳炳宜，李沛倫，陳思正，周軍叡，葉宗和，多彩型電致變色玻璃之製備與光學特性研究，第 10 屆台塑企業應用工程技術研討會，泰山，明志科技大學，2012/6/28。
- 8、陳炳宜，黃漢文，洪溥聖，謝仲傑，環保無鉛壓電陶瓷材料之電場誘發應變行為研究，第 10 屆台塑企業應用工程技術研討會，泰山，明志科技大學，2012/6/28。
- 9、陳炳宜，馮奎智，周振嘉，曾俊元，程海東，”交流阻抗圖譜技術對鉛基 PBZNZT 與非鉛 BNKT 壓電陶瓷之微觀與導電特性關聯性研究”，2010 中國材料科學學會年會，高雄，義守大學，2010/11/19-11/20。
- 10、陳炳宜，周振嘉，曾俊元，程海東，”非鉛陶瓷 $[\text{Bi}_{0.5}(\text{Na}_{0.82-x}\text{K}_{0.18}\text{Li}_x)_{0.5}]\text{TiO}_3$ 缺陷行為研究”，2009 中國材料科學學會年會，花蓮，東華大學，2009/11/26-11/28。
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- 13、李振豪，陳炳宜，“Predictions of laser cutting qualities for a BGA strip by utilizing Artificial Neural Networks”，第 7 屆台塑企業應用工程技術研討會，林口，長庚大學，

2008。

- 14、陳炳宜，洪崇凱，葉俊佑，李振豪，“致冷晶片應用於機車安全帽降溫之研究與製作”，第7屆台塑企業應用工程技術研討會，林口，長庚大學，2008。
- 15、李振豪，陳炳宜，“Study of removing-resin qualities for a TSSOP material by using the laser technology”，中華民國13th 車輛工程學術研討會，泰山，明志科技大學，2008。
- 16、陳炳宜，王大任，Lukman，周振嘉，” Microstructure and Impedance studies on Rare earth doped BNKT Piezoelectric Ceramics”，2007 中國材料科學學會研討會，新竹，交通大學，2007。
- 17、陳炳宜，王大任，Lukman，周振嘉，” Dielectric and Piezoelectric Properties study of Rare Earth Doped BNKT Ceramics”，2007 中國材料科學學會研討會，新竹，交通大學，2007。
- 18、陳炳宜，周振嘉，” Microstructure and Relaxor Behaviour Studies on Lead-free (Na_{0.5}Bi_{0.5})(Nd_xTi_{1-2x}Nb_x)O₃ Relaxor Ceramics”，2007 中華民國陶業學術研討會，新竹，煙波大飯店，2007。
- 19、陳炳宜，李振良，周振嘉，” 不同製程方式對具鈣鈦礦結構弛緩材料鋅鈦酸鉛材料系統微觀結構影響之研究”，第六屆台塑企業應用工程技術研討會，泰山，明志科技大學，2007。
- 20、陳炳宜，李振良，周振嘉，“不同製程方式對鋅鈦酸鉛材料系統微觀結構影響之研究”，2006 中華民國陶業學術發表會，台北，福華國際文教會館，2006。
- 21、陳炳宜，李振良，周振嘉，“不同製程方式對鋅鈦酸鉛材料系統電性影響之研究”，2006 中華民國陶業學術發表會，台北，福華國際文教會館，2006。
- 22、陳炳宜，李振良，周振嘉，“微波燒結鋅鈦酸鉛陶瓷對壓電特性之研究，第五屆台塑關係企業應用技術研討會，林口，長庚大學，2006。
- 23、陳炳宜、陳源林、簡煜軒、黃聖哲、羅文億、曾國軒、蔡堃輝、張培農，「車輛行車安全間距警示法則」，第四屆台塑工程應用研討會，泰山，明志科技大學，2005/5/27。
- 24、陳炳宜、周振嘉，「PCT 以微波燒結與傳統燒結在鐵電特性之比較」，第四屆台塑工程應用研討會，泰山，明志科技大學，2005/5/27。
- 25、陳炳宜、周振嘉，「商用壓電陶瓷粉末製作壓電變壓器及其檢測」，第四屆台塑工程應用

研討會，泰山，明志科技大學，2005/5/27。

- 26、陳炳宜、周振嘉，「PCT 以微波燒結與傳統燒結在微觀結構之比較」，第四屆台塑工程應用研討會，泰山，明志科技大學，2005/5/27。

(C)技術報告

書籍或報告名稱	作者	時間
『開發具電致伸縮特性之高應變無鉛壓電陶瓷材料應用研究』 研究精簡報告，科技部	陳炳宜	Sep. 2014
『開發高應變無鉛壓電陶瓷材料之微觀結構與電性關聯性研究』研究精簡報告，科技部	陳炳宜	Aug. 2013
『電場誘發應變與相變化行為之無鉛壓電陶瓷材料研究』研究精簡報告，科技部	陳炳宜	Aug. 2012
『微波燒結製備鉛基與非鉛壓電陶瓷材料之比較研究』研究精簡報告，科技部	陳炳宜	Aug. 2011
胎溫胎壓量測系統之研究報告書	陳炳宜	Jul. 2004
煞車溫度警示系統測試報告評估探討報告書	陳炳宜	Aug.2003
引擎保養維修與拆裝組合實務教材編纂	陳炳宜	Apr. 2001

(D)專利

類別	專利名稱	國別	專利號碼	發明人	專利權人	專利核准日期
新型	一種安全帽冷卻裝置	中華民國	新型第 M351005 號	<u>陳炳宜</u> 葉俊佑 洪崇凱	明志科技 大學	2009.2.21
新型	一種導熱體計時裝置	中華民國	新型第 M348932 號	<u>陳炳宜</u> 陳泉源	<u>陳炳宜</u> 陳泉源	2009.1.11

新型	一種輪胎溫度氣壓感測裝置	中華民國	新型第 573627 號	陳基山 陳源林 陳炳宜	陳基山 陳源林 陳炳宜	2004.6.11
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(七) 專書

專書	書籍名稱	作者	時間
碩士論文	氮含量對沃斯田鐵型不銹鋼銲接殘留應力與角變形之影響 Effect of nitrogen content on the residual stress and angular distortion in austenitic stainless steel weldment	陳炳宜	Jun. 1999
博士論文	鈦酸鉍鈉鉀無鉛鐵電陶瓷材料缺陷行為、微觀結構與電性之研究 Defect behavior, microstructures and electrical properties of $(\text{Bi}_{0.5}\text{Na}_{0.5-x}\text{K}_x)\text{TiO}_3$ lead-free ferroelectric ceramics	陳炳宜	Apr. 2010