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## 學術論著

### 一、科技部專題計畫、產學計畫等

1. 複合材料非破壞檢測之熱學分析與紅外線熱影像法驗證(II) (110)
2. 國 6 南投段橋梁微波雷達檢測與脊背橋索力檢測 (109)
3. 複合材料非破壞檢測之熱學分析與紅外線熱影像法驗證 (108)
4. 整合三維建物模型與紅外線熱影像進行結構缺陷偵測研究 (106)
5. 國道 3 號竹山高架橋 P14 橋墩支承修復工程監檢測計畫 (105)
6. 結合 NDT 的自動化檢測技術在土木結構健康診斷之應用 (104)

### 二、期刊論文

1. Kumar, D., Chiang, C.-H.\* , Lin, Y.-C. (2022) Experimental vibration analysis of large structures using 3D DIC technique with a novel calibration method. *Journal of Civil Structural Health Monitoring*, (SCI) (Scopus) (DOI: 10.1007/s13349-022-00549-5)
2. Lee, M.-G., Lo, S.-L., Kan, Y.-C., Chiang, C.-H. (2022) Water quenched slag from incinerator ash used as artificial stone. *Case Studies in Construction Materials* 16 e00827 (DOI: 10.1016/j.cscm.2021.e00827)
3. Chih-Hung Chiang\*, Hung-Yu Tao, Yung-Chiang Lin (2021) Transient thermal analysis of layered media based on thermal quadrupoles. *International Journal of Applied Science and Engineering* 18:3 (Scopus) (DOI: 10.6703/IJASE.202106\_18(3).001)
4. Lin, Y.-C., Chiang, C.-H., Yu, C.-P., Kumar, D., Hsu, K.-T. (2021) Application of DIC method to modal vibration study for structure health monitoring of WT tower. *International Journal of Applied Science and Engineering* 18:3 (Scopus) (DOI: 10.6703/IJASE.202106\_18(3).003)
5. Yung-Chiang Lin, Chih-Hung Chiang\*, Chih-Peng Yu, Keng-Tsang Hsu (2020) Deterministic deterioration modeling of wind turbines toward the failure identification – a modal curvature approach, *Journal of Structural Integrity and Maintenance*, 5:2, 104-112, (DOI: 10.1080/24705314.2020.1729518)(Scopus)
6. Huang, Y., Shih, P., Hsu, K.-T., Chiang, C.-H. (2020) To identify the defects illustrated on building facades by employing infrared thermography under shadow, *NDT & E International*, 111 (DOI: 10.1016/j.ndteint.2020.102240) (SCI)(Scopus)
7. Chih-Hung Chiang\*, Keng-Tsang Hsu, Chih-Peng Yu, Chia-Chi Cheng, Jie-Zhen Pan (2018) “Remote measurements and vibration analyses of existing

wind turbines,” *Journal of Testing and Evaluation* vol.47 no.3 pp.2193-2206 (DOI: 10.1520/JTE20180025) (SCI)(Scopus)

### 三、研討會論文

- 1.曾靖皓、江支弘、鄭家齊、林永強、鄭柏鈞 (2021)“數位影像相關方法應用於短跨度橋梁振動分析”,台灣混凝土學會 2021 年混凝土工程研討會,高雄萬華酒店,110 年 11 月 18-19 日。
- 2.鄭柏鈞、江支弘、林永強 (2021)“風機自然頻率與螺栓應力狀態之關聯分析”,第 26 屆電子計算機於土木水利工程應用研討會,中央大學,桃園 110 年 8 月 30-31 日。
- 3.Chih-Hung Chiang\*, Muhamad Hidayat, Hung-Yu Tao (2021) “Simulated surface temperature distribution of layered structures for TNDT”, AASRC2021 航太學會學術研討會論文集。(MOST110-2211-E-324-006)
- 4.Chan, C. C-K., Kumar, D., Chiang, C-H. (2021) “Coarse and fine localized CNN classifier for intelligent DIC preprocessing in large structure health monitoring sample”, Proceedings of SPIE - The International Society for Optical Engineering, 11592, art. no. 115920L (DOI: 10.1117/12.2584023)
- 5.Kumar, D., Chiang, C-H.\*, Lin, Y-C. (2021) “Identification and correlation of natural patterns using a hybrid BRISK-DIC method”, Proceedings of SPIE - The International Society for Optical Engineering, 11592, art. no. 115920K (DOI: 10.1117/12.2584776)
- 6.Chih-Hung Chiang\*, Hung-Yu Tao, Jean-Shyan Wang (2020) “Progressive Damage to CFRP Specimens Due to Tensile Loading –Thermal Modeling and Experimental Analysis”,中國機械工程學會第三十七屆全國學術研討會。國立虎尾科技大學,2020 年 11 月 20-21 日。(MOST108-2211-E-324-004)

- 7.江支弘\*、陶宏育、王正賢、林永強 (2020) “複合材料中缺陷造成之暫態熱影像分析”,第 20 屆非破壞檢測技術研討會暨財團法人台灣非破壞檢測協會年會 2020 CNDT. 高雄, 2020 年 10 月 22-23 日。
- 8.Huang, Y., Yang, Q.-Y., Hsu, K.-T., Chiang, C.-H. (2020) “Building cracks identification by employing image segmentation”, Proceedings of SPIE - The International Society for Optical Engineering, 11381, art. no. 113811Y (DOI: 10.1117/12.2558335)(Scopus)
- 9.Kumar, D., Chiang, C.-H., Lin, Y.-C., Hsu, K.-T. (2020) “3D vibration studies of large structures using DIC”, Proceedings of SPIE - The International Society for Optical Engineering, 11381, art. no. 1138124 (DOI: 10.1117/12.2557007)(Scopus)
- 10.Lau, E.M., Kumar, D., Chiang, C.-H., Zhang, J.-D., Huang, W.-X., Khare, V. (2020) “Pressure distribution of a deformable composite flapping wing”, Proceedings of SPIE - The International Society for Optical Engineering, 11379, art. no. 113790M (DOI: 10.1117/12.2558461)(Scopus)

#### 四、技術報告

- 1.江支弘 (2020) 複合材料非破壞檢測之熱學分析與紅外線熱影像法驗證, 科技部專題研究報告。
- 2.江支弘、鄭家齊、余志鵬、黃怡碩、鄭文昌、張家濟、賴俊仁、徐松圻 (2017) 結合 NDT 的自動化檢測技術在土木結構健康診斷之應用, 科技部專題研究報告。

#### 五、獲獎榮譽

- 1.擔任第 18~20 屆非破壞檢測技術研討會暨台灣非破壞檢測協會年會大會主席(2016、2018、2020 年)
- 2.2017 年 11 月獲選為亞太非破壞聯盟理事 APFNDDT Board member 任期四年。