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學術論著(請填寫近 5 年內資料)

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(III) (111)
2. 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)
3. 國 6 南投段橋梁微波雷達檢測與脊背橋索力檢測 (109)
4. 複合材料非破壞檢測之熱學分析與紅外線熱影像法驗證(I) (108)
5. 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)

二、期刊論文

1. Prasad, S., Kumar, D., Kalra, S., Chiang, C.-H. (2023) Robust and efficient feature-based method for structural health monitoring of large structures. ***Journal of Civil Structural Health Monitoring*** (Accepted)
2. Huang Y., Chen C.-L., Chiang C.-H. (2023) Analyzing a series of thermal infrared images to identify defects using a hybrid approach that combines robust principal component analysis and image segmentation. ***NDT and E International*** 137 (SCI) (Scopus) (DOI: 10.1016/j.ndteint.2023.102818).
3. 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)
4. 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)
5. 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)

6. 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)
7. 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)**
8. 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)**
9. 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. Kumar, D., Chiang, C.-H., Prasad, S. (2022) "Integrating robust feature detection methodology with in-house DIC for identification and correlation of natural patterns on large structures", Proceedings of SPIE - The International Society for Optical Engineering, 12047, art. no. 120470C (DOI: 10.1117/12.2612758)
2. Chiang, C.-H., Hidayat, M., Kumar, D. (2022) "Simulated thermal image based on finite element models for a layered composite structures", Materials Today: Proceedings (DOI: 10.1016/j.matpr.2022.02.539)
3. 江支弘、陶宏育、林永強(2022) ”關於週期荷載與疊層結構之熱學分析的可能應用” 第 21 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 2022 CNDT，日月潭，2022 年 10 月 27-28 日。
4. Chiang, C.-H. and Hidayat, M. (2022) "Finite Element-Based 3D Modelling to Simulate Defect in Layered Composite Materials for TNDT" 第 21 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 2022 CNDT，日月潭，2022 年 10 月 27-28 日。
5. 曾靖皓、江支弘、鄭家齊、林永强、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。
6. 鄭柏鈞、江支弘、林永强 (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。
7. 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）
8. 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)
9. 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)

10. 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）
11. 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。
12. 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)
13. 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)
14. 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 (2022) 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)，科技部專題研究報告.

2.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。

3.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. 2023 年 3 月連任亞太非破壞聯盟理事 APFNDT Board member 任期 3 年。
3.受邀擔任第 21 屆非破壞檢測技術研討會 CNDT 2022 Keynote 演講人，發表主題"風力發電結構健康監測與非破壞檢測—由風機振動分析與科技整合談起" (2022 年 10 月 27 日)