

郭茂坤 個人簡歷

1. 個人資料：

辦公室： 320 室

現職： 台大應力所 教授

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2. 學歷：

1984： (美國) 西北大學博士 (土木系)

1979、1977： 臺灣大學碩士、學士 (土木系)

3. 獲獎：

2012 台大特聘教授

2012, 2004 台大教學傑出獎；

1987, 1999, 2003, 2009 台大教學優良獎；1987 教育部教學傑出獎

4. 專長：

奈米金屬結構光學特性、固體力學分析及模擬

5. 研究興趣：固體力學以及相關的奈米力學 (擬收學生數 3 人)

(a) AI 用於非破壞性檢測的訊號分類及辨識

(b) 光力對奈米粒子的捕捉及操控

(c) 光力對奈米粒子的自組裝 (實驗)

(d) 光熱效應對奈米結構的熱變型及熱處理

6. 研究成果目錄：

- (1) Y.-C. Ku, J.-W. Liaw*, S.-Y. Mao, M.-K. Kuo*, 2022, Conversion of a Helical Surface Plasmon Polariton into a Spiral Surface Plasmon Polariton at the Outlet of a Metallic Nanohole, ACS Omega, **7**, 10420-10428.
- (2) S.-Y. Yu, C.-H. Tu, J.-W. Liaw*, M.-K. Kuo*, 2022, Laser-Induced Plasmonic Nanobubbles and Microbubbles in Gold Nanorod Colloidal Solution, Nanomaterials, **12**, 1154.
- (3) Y.-C. Ku, M.-K. Kuo, J.-W. Liaw*, 2022, Winding Poynting vector of light around plasmonic nanostructure, Journal of Quantitative Spectroscopy & Radiative Transfer, **278**, 108005.
- (4) J.-W. Liaw*, S.-Y. Mao, J.-Y. Luo, Y.-C. Ku, M.-K. Kuo*, 2021, Surface plasmon polaritons of higher-order mode and standing waves in metallic nanowires, Optics Express, **29**, 18876.
- (5) J.-W. Liaw*, G. Liu, Y.-C. Ku, M. K. Kuo*, 2020, Plasmon-enhanced photothermal and optomechanical deformations of a gold nanoparticle, Nanomaterials, **10**, 181.
- (6) J. W. Liaw*, M. C. Huang, C. W. Huang, Y. C. Ku, M. K. Kuo*, 2019, Light-driven self-organization of gold clusters by linearly polarized Gaussian beam, Journal of Quantitative Spectroscopy & Radiative Transfer, **233**, 35–41.
- (7) J. W. Liaw*, M. C. Huang, H. Y. Chao, M. K. Kuo*, 2018, Spin and orbital rotation of plasmonic dimer driven by circularly polarized light, Nanoscale Research Letters, **13**,

322.

- (8) J. W. Liaw*, C. W. Chien, K. C. Liu, Y. C. Ku, M. K. Kuo*, 2018, 3D optical vortex trapping of plasmonic nanostructure, *Scientific Reports*, **8**, 12673.
- (9) J. W. Liaw*, C. W. Huang, M. C. Huang, M. K. Kuo*, Plasmon-enhanced optical bending and heating on V-shaped deformation of gold nanorod, 2018, *Applied Physics A- Materials Science & Processing* **124**, 17
- (10) J. W. Liaw*, H. Y. Chao, C. W. Huang, M. K. Kuo*, 2018, Light-driven self-assembly of hetero-shaped gold nanorods, *Applied Physics A-Materials Science & Processing* **124**, 16
- (11) J. W. Liaw*, W. C. Lin and M. K. Kuo*, 2017, Wavelength-Dependent Plasmon-Mediated Coalescence of Two Gold Nanorods, *Scientific Reports*, **7**, 46095.
- (12) D. J. Y. Feng, Y. J. Lin, Y. C. Ku, H. Y. Jhang, T. R. Lin, and M. K. Kuo*, 2017, GaAsSb spacer effect in quasi-type-II InAs coupled-QDs for intraband absorption enhancement, *Optical Materials Express*, **7**, 1351-1364.
- (13) J. W. Liaw*, Y. S. Chen, M. K. Kuo*, 2016, Spinning gold nanoparticles driven by circularly polarized light, *Journal of Quantitative Spectroscopy & Radiative Transfer*, **175**, 46–53.
- (14) J. W. Liaw*, Y. S. Chen, M. K. Kuo*, 2016, Maxwell stress induced optical torque upon gold prolate nanospheroid, (invited paper) *Applied Physics A - Materials Science & Processing*, **122**: 182
- (15) J. W. Liaw*, H. Y. Wu, C. C. Huang and M. K. Kuo*, 2016, Metal-enhanced fluorescence of silver island associated with silver nanoparticle, *Nanoscale Research Letters* 11:26.
- (16) J. W. Liaw*, T. Y. Kuo, M. K. Kuo*, 2016, Plasmon-mediated binding forces on gold or silver homodimer and heterodimer, *Journal of Quantitative Spectroscopy & Radiative Transfer*, **170**, 150–158.