

Publications

Electrical and Communication Engineering

Year 2021

Journals

1. H. M. Alkhoori, "Plane wave scattering by a three-dimensional chiral object immersed in a simple Lorentz-nonreciprocal medium with magnetoelectric gyrotropy," *J. Opt. Soc. Am. A* 38, 547–555 (2021).
2. A. Lakhtakia, N. L. Tsitsas, and H. M. Alkhoori, "Theory of perturbation of electrostatic field by an anisotropic dielectric sphere," *Q J Mech Appl Math* (2021).
3. A. Lakhtakia, H. M. Alkhoori, and N. L. Tsitsas, "Theory of perturbation of electric potential by a 3D object made of an anisotropic dielectric material," *J. Phys. Commun.* 5 (2021).
4. Abdrabou, A., & Shakhathreh, W. (2021). **On assessment and evaluation of teaching computer networks to electrical engineering students by the aid of a lab course.** *Journal of Technology and Science Education*, 11(2), 388-402. <https://doi.org/10.3926/jotse.1186>
5. O. Mounkachi, A. Akrouchi, G. Tiouitchi, M. Lakhali, E. Salmani, A. Benyoussef, A. Kara, A. El Kenz, H. Ez-Zahraouy, and **A. El Moutaouakil**, "Stability, Electronic Structure and Thermodynamic Properties of Nanostructured MgH₂ Thin Films," *Energies*, vol.: 14, Iss.: 22, 7737, 2021, <https://doi.org/10.3390/en14227737>
6. O. Samy and **A. El Moutaouakil**, "A Review on MoS₂ Energy Applications: Recent Developments and Challenges," *Energies*, vol.: 14, Iss.: 15, 4586, 2021, <https://doi.org/10.3390/en14154586>
7. O. Samy, S. Zeng, M. D. Birowosuto and **A. El Moutaouakil**, "A Review on MoS₂ Properties, Synthesis, Sensing Applications and Challenges," *Crystals*, vol.: 11, Iss.: 4, 355, 2021, <https://doi.org/10.3390/cryst11040355>
8. Q. Memon, "Analysis of Computer Skills and Happiness Levels of Electrical Engineering Students during Pandemic," *European Journal of Education and Pedagogy*, 2 (5), 1-6, 2021
9. N. Valappil, Q Memon, "CNN-SVM based vehicle detection for UAV platform," *International Journal of Hybrid Intelligent Systems*, 17, pp. 1-12, 2021
10. Q. Memon, et. al., "Privacy Preserving Smartphone Camera Tracking Using Support Vector Machines," *Journal of Image Processing Theory and Applications* 4 (1), 1-12, 2021
11. Wasfi, Asma, **Falah Awwad**, Naser Qamhieh, Rabah Iratni, and Ahmad I. Ayesh. "Real-time nucleic acid detection via field-effect transistor sensors based on graphite oxide decorated with trimetallic nanocluster of gold, silver, and platinum." **New Journal of Physics** 23, no. 10 (2021): 103041. (IF = 3.773)
12. Atef, Mohamed, Osman Hassan, **Falah Awwad**, and Moien AB Khan. "High Dynamic Range Photocurrent Sensory Circuit with a Multi-Transistor Background Light Cancellation Loop for Photoplethysmography Sensing." **Electronics (MDPI)** 10, no. 22 (2021): 2769.
13. Asma Wasfi, **Falah Awwad**, and Ahmad I. Ayesh. "Detection of DNA Bases via Field Effect Transistor of Graphene Nanoribbon with a Nanopore: Semi-empirical Modeling". **IEEE Transactions on NanoBioscience**. Date of Publication: 04 May 2021. DOI: 10.1109/TNB.2021.3077364. (IF = 2.791)
14. Errouissi, Rachid, Hussain Shareef, and **Falah Awwad**. "Disturbance Observer-Based Control for Three-Phase Grid-tied Inverter With LCL Filter." **IEEE Transactions on Industry Applications**, Volume: 57, Issue: 5, 2021, Page(s): 5411 - 5424, Date of Publication: 10 June 2021. DOI: 10.1109/TIA.2021.3088391

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15. M. S. Laghari, A. Hassan, & M. Noman, "Wear Particle Classification using Shape Features", *Advances in Intelligent Systems and Computing (AISC)*, Vol. 1275, pp. 377-385, 2021.
16. M. S. Laghari, A. Dirir, & M. Noman, "Smart Academic Guidance for Institutional Students", *Advances in Intelligent Systems and Computing (AISC)*, Vol. 1275, pp. 387-400, 2021.
17. Kallumottakkal, M.; Hussein, M.I.; Haik, Y.; Abdul Latef, T.B. Functionalized-CNT Polymer Composite for Microwave and Electromagnetic Shielding. *Polymers* 2021, 13, 3907. <https://doi.org/10.3390/polym13223907> (Q1, IF 4.329)
18. I. Ahmad, W. U. R. Khan, H. Dildar, S. Ullah, S. Ullah, N. Mufti, B. Kamal, T. Ahmad, A. Ghaffar, and M. I. Hussien, "A Pentaband Compound Reconfigurable Antenna for 5G and Multi-Standard Sub-6GHz Wireless Applications," *Electronics*, vol. 10, no. 20, p. 2526, Oct. 2021. [Online]. Available: <http://dx.doi.org/10.3390/electronics10202526> (Q2, IF 2.412)
19. H. Umair *et al.*, "Fabry-Perot Antenna Employing Artificial Magnetic Conductors and Phase Gradient Metasurface for Wideband Monostatic RCS Reduction and High Gain Tilted Beam Radiation," in *IEEE Access*, vol. 9, pp. 66607-66625, 2021, doi: 10.1109/ACCESS.2021.3076913. (Q1, IF 3.367)
20. Muhammad Kallumottakkal, Mousa I Hussein, Muhammad Zafar Iqbal, "Recent Progress of 2D Nanomaterials for Microwave Absorption: A Comprehensive Study", *Frontiers in Materials*, 2021, *Frontiers*. <https://doi.org/10.3389/fmats.2021.633079> (Q2, IF 3.515)
21. Hassan Umair, Tarik Bin Abdul Latef, Yoshihide Yamada, Tayyab Hassan, Wan Nor Liza Binti Wan Mahadi, Mohamadariiff Othman, Kamilia Kamardin, Mousa I Hussein, "Quarter Wavelength Fabry-Perot Cavity Antenna with Wideband Low Monostatic Radar Cross Section and Off-Broadside Peak Radiation," *J. Applied Sciences*, 2021, MDPI. (Q2, IF 2.679) <https://doi.org/10.3390/app11031053>
22. Hassan Umair, Tarik Bin Abdul Latef, Yoshihide Yamada, Wan Nor Liza Binti Wan Mahadi, Mohamadariiff Othman, Kamilia Kamardin, Mousa I. Hussein and Ali Imran Najam, "Tilted Beam Fabry-Perot Antenna with Enhanced Gain and Broadband Low Backscattering," *Electronics* **2021**, 10, 267. <https://doi.org/10.3390/electronics10030267> . (Q2, IF 2.412)
23. M.M.Elbadry, M.Y.Makkey, **M.Atef**, Design framework for inverter cascode transimpedance amplifier using Gm/ID based PSO applying design equations, *AEU-International Journal of Electronics and Communications*, vol.142, pp.153985, Dec. 2021.
24. **Mohamed Atef**, Osman Hassan, Falah Awwad, Moien AB Khan, High Dynamic Range Photocurrent Sensory Circuit with a Multi-Transistor Background Light Cancellation Loop for Photoplethysmography Sensing, *Electronics/MDPI*, vol.10, no.22, pp.2769, Nov.2021.
25. Binghui Lin, Zhouchen Ma, **Mohamad Atef**, Liang Ying, Guoxing Wang, Low-Power High-Sensitivity Photoplethysmography Sensor for Wearable Health Monitoring System, *IEEE Sensors Journal*, vol.21, no.14, pp. 16141 - 16151, Feb. 2021.

Conferences

1. Mohammad Omar Abualhayja'a and Mousa Hussein, "Comparative Study of Adaptive Beamforming Algorithms for Smart antenna Applications," *International Conference on Communications, Signal Processing and their Applications (ICCSPA' 20)*, March 16-18, 2021. AUS, Sharjah, UAE
2. Mohammad Shakeel Laghari, Ahmed Hassan, & Mubashir Noman, "Edge Detail Analysis of Wear Particles", 16th International Conference on Software Technologies (ICSOFTE 2021) Lisbon, Portugal, July 6-8, 2021.

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3. **Ali Hassan Shah, Ahmed Hassan, Mohammad Shakeel Laghari, & Abdulrahman Alraeesi**, "Assessment of Atmospheric Water Generation System for Photovoltaic Module Cleaning", 8th Zero Energy Mass Custom Home International Conference (ZEMCH 2021), Al Ain, UAE, **October 24-26, 2021**.
4. Wasfi, Asma, Mohamed Atef, and **Falah Awwad**. "First-Principles Modeling for DNA Bases via Monolayer MoS₂ Sensor with a Nanopore." **2021 IEEE International Conference on Microelectronics (ICM)**, pp. 220-223, 2021.
5. Almansoori, Noura N., Sheharyar Malik, and **Falah Awwad**. "A Novel Approach for Fault Detection in the Aircraft Body Using Image Processing." In **AIAA Scitech 2021 Forum**, p. 0520. 19–21 January 2021.
6. A. Abdulhameed, Q. Memon, "An improved Trapezoidal rule for numerical integration," *Journal of Physics: Conference Series*, 2090 (1), 012104, 2021
7. N. Valappil, Q. Memon, "Vehicle Detection in UAV Videos using CNN-SVM, *International Conference on Soft Computing and Pattern Recognition*, 1383, 221-232, 2021
8. **El Moutaouakil**, M. Al Ahmad, A. K. K. Soopy, A. Najar, "Porous Silicon NWs with FiTC-doped Silica Nanoparticles," The 6th International Conference on Renewable Energy: Generation and Applications (ICREGA 2021), Al Ain, UAE, February 2-4, 2021.
9. O. Samy, D. Birowosuto, **A. El Moutaouakil**, "A short review on Molybdenum disulfide (MoS₂) applications and challenges," The 6th International Conference on Renewable Energy: Generation and Applications (ICREGA 2021), Al Ain, UAE, February 2-4, 2021.
10. N. Alshamsi, M. Alshamsi, F. Alhamadi, **A. El Moutaouakil**, "Manual Two-dimensional materials Transfer System," The 6th International Conference on Renewable Energy: Generation and Applications (ICREGA 2021), Al Ain, UAE, February 2-4, 2021.

Book Chapters

1. Najar, **A. El Moutaouakil**, "Hybrid silicon nanowires for solar cells applications," *Emerging Solar Energy Materials*, IntechOpen, <http://dx.doi.org/10.5772/intechopen.74282>
2. QA Memon, N Valappil, "On multi-class aerial image classification using learning machines," In *Computer Vision and Recognition Systems Using Machine and Deep Learning*, IET, 2021.

Patents

1. Smart multiband antenna system; Mahmoud F. Al Ahmad, US 17/133,605,2021.
2. Personal protection device against viruses and article of apparel and device and method for making a vaccine; MFY Al Ahmad, TA Rizvi, F Mustafa. US Patent 11,071,337; 2021.
3. Piezoelectric related apparatus and method for extracting cardiac cycle features from respiration signals; MFY Al Ahmad, AAR Allataifeh. US Patent 11,033,195; 2021.
4. System and parametric method for cancer discriminations; M Al Ahmad, AF Abdulgani. US Patent 10,989,658; 2021.
5. System and method for detecting abnormalities in cells; MFY Al Ahmad. US Patent 10,942,110; 2021.
6. System and parametric method for cancer discriminations: M Al Ahmad, AF Abdulgani. US10,989,658, 2021
7. Wireless Multiplexing using Tunable Antenna: Mahmoud Al Ahmad and Mohamed Deeb.