

## PROFORMA - 2



### UNIVERSITY OF CALCUTTA

#### Institute of Radio Physics and Electronics

#### FACULTY ACADEMIC PROFILE/ CV

1. **Full name of the faculty member:** Dr. Kaushik Mandal
2. **Designation:** Assistant Professor
3. **Specialisation :** Microwave Antennas, Microwave and Radar Engineering, Metamaterials, Frequency Selective Surface, Digital Communications
4. **Passport size photograph :**



5. **Contact information :**  
Moynadanga (Lichutala), P.O- Chinsurah (R.S), Hooghly- 712102.  
e-mail: [kmrpe@caluniv.ac.in](mailto:kmrpe@caluniv.ac.in); Mob. +91-8017549741
6. **Academic qualifications:**  
*Please mention here the degrees (graduation onward):*

College/ university from which the degree was obtained	Abbreviation of the degree
Maulana Azad College, (C.U)	B. Sc, Physics (H)
Institute of Radiophysics and Electronics, (C.U)	B. Tech
Institute of Radiophysics and Electronics, (C.U)	M. Tech
University of Kalyani	Ph.D.

7. **Positions held/ holding:**  
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8. **Research interests:**

- My areas of interest include the design of high-gain wideband compact microstrip patch antennas, multi-band antennas for wireless devices, circularly polarized antennas, SIW integrated microstrip antennas, MIMO antennas for sub-6 GHz applications, and performance enhancement of microstrip antennas using frequency selective surface (FSS) and metamaterial, wireless power transfer system design.

**9. Ph.D. guidance :**

Awarded- **03**; Thesis Submitted: **02**, Registered- **00**; Admitted- **02**

**10. Research Projects :**

*Completed projects : 00*

*Current projects : 01 (SERB-funded Research Project: Design of Highly Efficient Wireless Power Transfer System Utilizing Metasurface Integrated Planar Antenna for IoT Applications)*

**11. Publications:**

**a) Journal publications (Check Annexure- I)**

International Journals: **44 (SCI) + 08 (SCOPUS)**

National Journals: **01 (SCI)**

**b) Conference/ seminar volumes: (Check Annexure- I)**

International Conference: **20**;

National Conference: **01**

**c) Patent (Check Annexure- I)**

International: **01**

National: **00**

**d) Books/ book chapters**

Book Chapters: **06**

**12. Membership of Learned Societies:**

- **Secretary-2020, 2021, & 2023**, IEEE AP-MTT Chapter, Kolkata Section
- **Senior Member IEEE** (Antennas and Propagation Society), (Membership Id. **92249202**)
- **Life member InRASS** (Since 2021)
- **Executive Committee Member**, IEEE AP-MTT Kolkata Chapter for the year 2019.

**13. Invited lectures delivered :**

- “Frequency Selective Surface (FSS) Based Mobile Phone Radiation Protector,”*AMECC-2020*, GITA Bhubaneswar, on 29<sup>th</sup> February 2020.
- “Enhancement of bandwidth and gain of a microstrip antenna by modifying radiating & ground planes”, *Young Scientist Colloquium 2014* at IEST, Shibpur on 19<sup>th</sup> August 2014

**14. Awards :** Several best paper awards in International Conferences

**15. Other notable activities :**



Date: 09/03/2023

Signature of the faculty member

## Annexure- I

### KAUSHIK MANDAL

**Assistant Professor, Institute of Radio Physics and Electronics  
University of Calcutta**

Google Scholar: [https://scholar.google.com/citations?user=D\\_59EasAAAAJ&hl=en](https://scholar.google.com/citations?user=D_59EasAAAAJ&hl=en)

Research Gate: [https://www.researchgate.net/profile/Kaushik\\_Mandal5/research](https://www.researchgate.net/profile/Kaushik_Mandal5/research)

#### **Journal Publications:**

1. Mrityunjay Kumar Ray, **Kaushik Mandal**, Gholamhosein Moloudian, and Ali Lalbakhsh, "Axial ratio beamwidth enhancement of a low-profile circularly polarized antenna using defected ground structures," *International Journal of Microwave and Wireless Technologies*, Accepted (In press), March 2023. [I.F-1.064, Indexing: SCI, Publisher: Cambridge University Press].
2. Priyanka Das, Amit Kumar Singh, and **Kaushik Mandal**, "Beam-steering of millimeter wave antenna using linear phase gradient metalens for 5G applications," *International Journal of RF and Microwave Computer Aided Engineering*, vol. 32, pp. e23459, October 2022. [DOI: 10.1002/mmce.23459] [I.F-1.694, Indexing: SCI; Publisher: WILEY].
3. Juin Acharjee, Shreya Chatterjee, Nipun Kumar Mishra, Gouri Shankar Paul, and **Kaushik Mandal**, "Synthesizing Radiation Properties of Dual-band Dual-mode High Gain Dielectric Resonator Antenna for Wireless Applications," *Progress In Electromagnetics Research- C*, vol. 122, pp. 153-164, August 2022. [DOI: 10.2528/PIERC22053102] [I.F: 1.02; Indexing: Clarivate Analytics' Emerging Source Citation Index and Elsevier's SCOPUS and Compendex].
4. Priyanka Das, and **Kaushik Mandal**, "Polarization Converter Surface Integrated MIMO Antenna for Simultaneous Reduction of RCS and Mutual Coupling," *IEEE Antennas and Wireless Propagation Letters*, vol. 21, pp. 1782-1786, June 2022. [DOI: 10.1109/LAWP.2022.3179708] [I.F-3.834, Indexing: SCI; Publisher: IEEE Xplore].
5. Priyanka Das, and **Kaushik Mandal**, "Design of graphene-constituted Frequency Selective Surface-based perfect absorbers in THz regime – A circuit analysis approach," *International Journal of Numerical Modelling Electronic Networks Devices and Fields*, vol. 36, pp. e3027, May 2022. [DOI: 10.1002/jnm.3027] [I.F-1.296, Indexing: SCI; Publisher: WILEY].
6. Priyanka Das, and **Kaushik Mandal**, "Transmissive Type Dual Band Polarization Converter Integrated Microstrip Patch Antenna in THz regime," *Optik - International Journal for Light and Electron Optics*, vol. 261, pp. 169157, April 2022, [DOI: 10.1016/j.ijleo.2022.169157] [I.F-2.443, Indexing: SCI, Publisher: ELSEVIER].
7. Priyanka Das, and **Kaushik Mandal**, "A tunable circularly polarized antenna in THz regime," *Micro and Nanostructures (Superlattices and Microstructures)*, vol. 66, pp. 207232, April 2022, [DOI: 10.1016/j.micrna.2022.207232] [I.F-2.658, Indexing: SCI, Publisher: ELSEVIER].
8. Priyanka Das, Amit Kumar Singh, and **Kaushik Mandal**, "Metamaterial loaded highly isolated tunable polarisation diversity MIMO antennas for THz applications," *Optical and Quantum*

- Electronics, vol. 54, pp. 250, March 2022, [DOI: 10.1007/s11082-022-03641-8] [I.F-2.084, Indexing: SCI, Publisher: Springer].
9. Juin Acharjee, **Kaushik Mandal**, and Sujit Kr. Mandal, "Slotted patch and ground for reducing side lobe level of planar antenna operating under higher order mode," *Annals of Telecommunications*, March 2022. [DOI: 10.1007/s12243-022-00911-0] [I.F-1.444, Indexing: SCOPUS, Publisher: Springer].
  10. Priyanka Das, **Kaushik Mandal**, and Ali Lalbakhsh "Beam-Steering of Microstrip Antenna using Single-layer Passive FSS based Phase Shifting Surface," *International Journal of RF and Microwave Computer Aided Engineering*, vol. 33, pp. e23033, March 2022. [DOI: 10.1002/mmce.23033] [I.F-1.694, Indexing: SCI; Publisher: WILEY].
  11. Priyanka Das, and **Kaushik Mandal**, "Passive FSS based polarization converter integrated microstrip antenna," *International Journal of RF and Microwave Computer-Aided Engineering*, vol. 32, pp. e22982, February 2022. [DOI: 10.1002/mmce.22982] [I.F-1.694, Indexing: SCI; Publisher: WILEY].
  12. Ali Lalbakhsh, Andrew Pitcairn, **Kaushik Mandal**, Mohammad Alibakhshikenari, Karu P. Esselle, and Sam Reisenfeld, "Darkening Low-Earth Orbit Satellite Constellations: A Review," *IEEE Access*, vol. 10, pp. 24383-24394, January 2022. [DOI: 10.1109/ACCESS.2022.3155193] [I.F-3.745, Indexing: SCIE, Publisher: IEEE Xplore].
  13. **Kaushik Mandal**, Susamay Samanta, Juin Acharjee, and Chinmoy Saha, "Slot Loaded Folded Half-Mode Substrate Integrated Waveguide Antenna for Wideband Applications," *AEÜ - International Journal of Electronics and Communications*, vol. 144, pp. 154057, December 2021. [DOI: 10.1016/j.aeue.2021.154057] [I.F-3.183, Indexing: SCI; Publisher: ELSEVIER].
  14. Priyanka Kumari, **Kaushik Mandal**, Juin Acharjee, and Sunandan Bhunia, "Cross-Polarization Pattern Diversity of Patch Antenna using Recessed Dielectric Layer" *AEÜ - International Journal of Electronics and Communications*, vol. 137, pp. 153806, May 2021. [DOI: 10.1016/j.aeue.2021.153806] [I.F-3.183, Indexing: SCI; Publisher: ELSEVIER].
  15. Ali Lalbakhsh, Muhammad U. Afzal, Touseef Hayat, Karu P. Esselle, and **Kaushik Mandal**, "All-metal wideband metasurface for near-field transformation of medium-to-high gain electromagnetic sources," *Scientific Reports*, vol. 11, pp. 9421, May 2021. [DOI: 10.1038/s41598-021-88547-3] [I.F-3.998, Indexing: SCOPUS, Publisher: Nature].
  16. Gouri Shankar Paul, **Kaushik Mandal**, and Ali Lalbakhsh, "Single-Layer Ultra-wide Stop-band Frequency Selective Surface Using Interconnected Square Rings," *AEÜ - International Journal of Electronics and Communications*, vol. 132, pp. 153630, January 2021. [DOI: 10.1016/j.aeue.2021.153630] [I.F-3.183, Indexing: SCI; Publisher: ELSEVIER].
  17. Priyanka Das, and **Kaushik Mandal**, "Hybrid FSS Phase Cancellation Structure Based Broadband Switchable RCS Reduction," *International Journal of RF and Microwave Computer-Aided Engineering*, vol. 31, pp. e22554, January 2021. [DOI: 10.1002/mmce.22554] [I.F-1.694, Indexing: SCI; Publisher: WILEY].
  18. Gouri Shankar Paul, **Kaushik Mandal**, and Priyanka Das, "Low Profile Polarization-Insensitive Wide Stop-Band Frequency Selective Surface with Effective Electromagnetic Shielding," *International Journal of RF and Microwave Computer-Aided Engineering*, vol. 31, pp. e22527, January 2021. [DOI:10.1002/mmce.22527] [I.F-1.694, Indexing: SCI; Publisher: WILEY].
  19. Susamay Samanta, P Soni Reddy, and **Kaushik Mandal**, "Field Asymmetry Ratio: A New

- Quantitative Approach for Identification of Appropriate Microstrip Patch Antenna Geometries Offering Enhanced Cross-Polarization Discrimination," *AEÜ - International Journal of Electronics and Communications*, vol. 128, pp. 153519, January 2021 [DOI:10.1016/j.aeue.2020.153519] [I.F-3.183, Indexing: SCI; Publisher: ELSEVIER].
20. Mrityunjoy Kumar Ray, **Kaushik Mandal**, Nasimuddin Nasimuddin, Ali Lalbakhsh, Raad Raad, and Faisal E. M. M. Tubbal, "Two-Pair Slots Inserted CP Patch Antenna for Wide Axial Ratio Beamwidth," *IEEE Access*, vol. 8, pp. 223316-223324, December 2020. [DOI:10.1109/ACCESS.2020.3043406] [I.F-3.745, Indexing: SCIE, Publisher: IEEE Xplore].
  21. Priyanka Das, and **Kaushik Mandal**, "RCS Reduction of Microstrip Antenna using Split Square Loop Thin Absorber," *IET Microwaves Antennas & Propagation*, vol. 14, pp. 1771-1778, November 2020. [DOI: 10.1049/iet-map.2020.0347] [I.F-2.036, Indexing: SCI; Publisher: IET].
  22. Ali Lalbakhsh, Seyed Morteza Alizadeh, Amirhossein Ghaderi, Alireza Golestanifar, Bahare Mohamadzade, Mohammad (Behdad) Jamshidi, **Kaushik Mandal**, and Wahab Mohyuddin, "A Design of a Dual-Band Bandpass Filter Based on Modal Analysis for Modern Communication Systems," *Electronics* 2020, 9, 1770, October 2020 [DOI:10.3390/electronics9111770] [I.F- 2.690, Indexing: SCIE, Publisher: MDPI].
  23. Ali Lalbakhsha, Mohammad (Behdad) Jamshidi, Hesam Siahkamari, Amirhossein Ghaderi, Alireza Golestanifar, Richard Linhart, Jakub Talla, Roy B.V.B. Simorangkir, and **Kaushik Mandal**, "A Compact Lowpass Filter for Satellite Communication Systems Based on Transfer Function Analysis," *AEÜ - International Journal of Electronics and Communications*, vol. 124, pp. 153318, September 2020 [DOI: 10.1016/j.aeue.2020.153318] [I.F-3.183, Indexing: SCI; Publisher: ELSEVIER].
  24. Juin Acharjee, **Kaushik Mandal**, and Sujit Kr. Mandal, "Optically controlled superwideband to Multiband Reconfigurable Antenna for wireless application," *Micro and Nanosystems*, vol. 13, pp. 204-210, June 2020. [DOI: 10.2174/1876402912999200613230909] [I.F-0.52, Indexing: SCOPUS].
  25. Robert Mark, Harsh Veradhan Singh, **Kaushik Mandal**, and Soma Das, "Mutual coupling reduction using near zero  $\epsilon$  and  $\mu$  metamaterial based superstrate for MIMO application," *IET Microwaves Antennas & Propagation*, vol. 14, pp. 479-484, February 2020. [DOI: 10.1049/iet-map.2019.0382] [I.F-2.036, Indexing: SCI; Publisher: IET].
  26. Juin Acharjee, Ram Lakhan Kumar, **Kaushik Mandal**, and Sujit Kr. Mandal, "A Compact Multiband Multimode Antenna Employing Defected Ground Structure," *Radio Engineering*, vol. 28, pp. 663-670, December 2019. [DOI: 10.13164/re.2019.0663] [I.F-1.076, Indexing: SCI Expanded].
  27. Mrityunjoy Kumar Ray, **Kaushik Mandal**, and Nasimuddin, "Low Profile Circularly Polarized Patch Antenna with Wide 3-dB Beamwidth," *IEEE Antennas and Wireless Propagation Letters*, vol. 18, pp. 2473-2477, December 2019. [DOI: 10.1109/LAWP.2019.2940703] [I.F-3.834, Indexing: SCI; Publisher: IEEE Xplore].
  28. Robert Mark, Neha Rajak, **Kaushik Mandal**, and Soma Das, "Isolation and Gain Enhancement Using Metamaterial based Superstrate for MIMO applications," *Radio Engineering*, vol. 28, pp. 689-695, December 2019. [DOI: 10.13164/re.2019.0689] [I.F-1.076, Indexing: SCI Expanded].
  29. Priyanka Das, **Kaushik Mandal**, and Ali Lalbakhsh, "Single-Layer Polarization Insensitive Frequency Selective Surface for Beam Reconfigurability of Monopole Antennas," *Journal of Electromagnetic Waves and Applications*, vol. 34, pp. 86-102, November 2019. [DOI:

- 10.1080/09205071.2019.1688693] [I.F: 1.373; Indexing: SCI; Publisher: Taylor & Francis].
30. Mrityunjay Kumar Ray and **Kaushik Mandal**, "Pair of Diagonal Slots Loaded Low-Profile Circularly-Polarized Patch Antenna With Wide 3-dB Axial Ratio Beamwidth," *IET Microwaves Antennas & Propagation*, vol. 13, pp. 2433 - 2438, November 2019. [DOI: 10.1049/iet-map.2019.0392] [I.F-2.036, Indexing: SCI; Publisher: IET].
  31. Gouri Shankar Paul, and **Kaushik Mandal**, "Polarization-Insensitive and Angularly Stable Compact Ultra-wide Stop-band Frequency Selective Surface," *IEEE Antennas and Wireless Propagation Letters*, vol. 18, pp. 1917-1921, September 2019. [DOI: 10.1109/LAWP.2019.2933545] [I.F-3.834, Indexing: SCI; Publisher: IEEE Xplore].
  32. Amartya Das, Juin Acharjee, and **Kaushik Mandal**, "Compact UWB printed slot antenna with three extra bands and WiMAX rejection functionality," *Radio Engineering*, vol. 28, pp. 544-551 September 2019. [DOI: 10.13164/re.2019.0544] [I.F-1.076, Indexing: SCI Expanded].
  33. Robert Mark, Harsh Singh, **Kaushik Mandal**, and Soma Das, "Reduced edge-to-edge spaced MIMO antenna using parallel coupled line resonator for WLAN applications," *Microwave and Optical Technology Letters*, vol. 61, pp. 2374-2380, July 2019 [DOI: 10.1002/mop.31911] [I.F: 1.392; Indexing: SCI Extended; Publisher: WILEY].
  34. Gouri Shankar Paul, **Kaushik Mandal**, Juin Acharjee, and Partha Pratim Sarkar, "Reduction of Mobile Phone Radiation Exposure Using Multi-stopband Frequency Selective Surface," *Progress In Electromagnetics Research- M*, vol. 83, pp. 9-18, July 2019. [DOI: 10.2528/PIERM19041401] [I.F: 1.02; Indexing: SCOPUS].
  35. Anik Ghosh, and **Kaushik Mandal**, "High Gain and Wideband Substrate Integrated Waveguide Based H-plane Horn Antenna," *AEÜ - International Journal of Electronics and Communications*, vol. 105, pp. 85-91, June 2019 [DOI: 10.1016/j.aeue.2019.04.005] [I.F-3.183, Indexing: SCI; Publisher: ELSEVIER]
  36. S. Samanta, **K. Mandal**, P. S. Reddy, and P. P. Sarkar, "Near-Field Approach toward Enhanced Suppression of Cross-Polarized Radiation across Different Elevation Planes using Novel Epsilon-Shaped Clusters of Shorting Pins" *IET Microwaves Antennas & Propagation*, vol. 13, pp. 966-975, June- 2019. [DOI: 10.1049/iet-map.2018.5769] [I.F-2.036, Indexing: SCI; Publisher: IET].
  37. Juin Acharjee, Amit Kumar Singh, **Kaushik Mandal**, and Sujit Kr. Mandal, "Defected Ground Structure toward Cross Polarization Reduction of Microstrip Patch Antenna with Improved Impedance Matching," *Radio Engineering*, vol. 28, no. 1. pp. 33-38, April 2019. [DOI:10.13164/re.2019.0033] [I.F-1.076, Indexing: SCI Expanded].
  38. Robert Mark, Nipun Mishra, **Kaushik Mandal**, Partha Pratim Sarkar, and Soma Das, "Hexagonal Nested Loop Fractal Antenna for Quad Band Wireless Applications," *Frequenz-Journal of RF-Engineering and Telecommunications*, vol. 73, no. 3-4. pp. 99-108, February 2019. [DOI: 10.1515/freq-2018-0115] [I.F-0.543, Indexing: SCImago (SJR) & SCOPUS].
  39. Priyanka Das, and **Kaushik Mandal**, "Modeling of ultra-wide stop-band frequency selective surface to enhance the gain of a UWB antenna," *IET Microwaves Antennas & Propagation*, vol. 13, pp. 269-277, February- 2019. [DOI: 10.1049/iet-map.2018.5426] [I.F-2.036, Indexing: SCI; Publisher: IET].
  40. Robert Mark, Neha Rajak, **Kaushik Mandal**, and Soma Das, "Metamaterial Based Superstrate towards the Isolation and Gain Enhancement of MIMO Antenna for WLAN application," *AEÜ - International Journal of Electronics and Communications*, vol. 100, pp. 144-152, January- 2019. [DOI:

- 10.1016/j.aeue.2019.01.011] [I.F-2.924, Indexing: SCI; Publisher: ELSEVIER].
41. Juin Acharjee, **Kaushik Mandal**, and Sujit Kr. Mandal, "Reduction of Mutual Coupling and Cross-Polarization of a MIMO/Diversity Antenna using a String of H-Shaped DGS," *AEU-International Journal of Electronics and Communications*, vol. 97, pp. 110-119, December- 2018. [DOI: 10.1016/j.aeue.2018.09.037] [I.F-2.924, Indexing: SCI; Publisher: ELSEVIER].
  42. Robert Mark, Nipun Mishra, **Kaushik Mandal**, Partha Pratim Sarkar, and Soma Das, "Hexagonal ring fractal antenna with dumb bell shaped defected ground structure for multiband wireless applications," *AEÜ - International Journal of Electronics and Communications*, vol. 94, pp. 42-50, June- 2018. [DOI: 10.1016/j.aeue.2018.06.039] [I.F: 2.924; Indexing: SCI; Publisher: ELSEVIER].
  43. Susamay Samanta, P Soni Reddy, and **Kaushik Mandal**, "Cross-Polarization Suppression in Probe-Fed Circular Patch Antenna Using Two Circular Clusters of Shorting Pins," *IEEE Transactions on Antennas and Propagation*, vol. 66, pp. 3177-3182, June- 2018.[DOI: 10.1109/TAP.2018.2819895] [I.F: 4.371; Indexing: SCI; Publisher: IEEE Xplore].
  44. Santanu Mondal, **Kaushik Mandal** and Partha Prtim Sarkar, "Design of MIMO Antenna for Ultra-wideband Applications," *IETE Journal of Research*, vol. 64, pp. 497-502, May- 2018. [DOI: 10.1080/03772063.2016.1176540] [I.F: 0.185; Indexing: SCI Extended; Publisher: Taylor & Francis].
  45. Juin Acharjee, **Kaushik Mandal**, Sujit Kr. Mandal, and Partha Pratim Sarkar, "Suppressing up to Fourth Harmonic of an ISM Band Microstrip Patch Antenna using Compact Defected Ground Structures," *Microwave and Optical Technology Letters*, vol. 59, pp. 2254-2259, June- 2017. [DOI: 10.1002/mop.30714] [I.F: 0.957; Indexing: SCI Extended; Publisher: WILEY].
  46. Juin Acharjee, **Kaushik Mandal**, Sujit Kr. Mandal, and Partha Pratim Sarkar, "A compact printed monopole antenna with enhanced bandwidth and variable dual band notch for UWB applications," *Journal of Electromagnetic Waves and Applications*, vol. 60, pp. 1980-1992, October-2016. [DOI: 10.1080/09205071.2016.1234419] [I.F: 1.373; Indexing: SCI; Publisher: Taylor & Francis].
  47. **Kaushik Mandal**, "Seven-Band Comb-Shaped Microstrip Antenna for Wireless Systems," *Progress In Electromagnetics Research Letters*, vol. 59, pp. 15-20, February- 2016. [DOI: 10.2528/PIERL16010803] [I.F: 0.41; Indexing: SCOPUS].
  48. **Kaushik Mandal** and Partha Prtim Sarkar, "A Compact Low Profile Wideband U-Shape Antenna with Slotted Circular Ground Plane" *AEÜ - International Journal of Electronics and Communications*, vol. 70, pp. 336-340, March- 2016. [DOI: 10.1016/j.aeue.2015.12.011] [I.F: 2.924; Indexing: SCI; Publisher: ELSEVIER].
  49. **K. Mandal**, and P. P. Sarkar "Reduced-Size Microstrip Antenna for Wi-MAX and WLAN" *Microwave Review*, vol. 21, no. 1, pp. 2-5, September- 2015. [I.F: 0.21; Indexing: IET Inspec; Publisher: Serbia & Montenegro IEEE MTT-S Chapter].
  50. **K. Mandal**, M. Kundu, S. Kundu and P. P. Sarkar, "Extremely Small Monopole Antenna for Wideband Applications" *Microwave and Optical Technology Letters*, vol. 57, no. 3, pp. 617-621, March- 2015. [DOI: 10.1002/mop.28911] [I.F: 0.957; Indexing: SCI Extended; Publisher: WILEY].
  51. **Kaushik Mandal** and Partha Prtim Sarkar, "A Compact High Gain Microstrip Antenna for Wireless Applications," *AEÜ - International Journal of Electronics and Communications*, vol. 67, no. 12, pp. 1010-1014, December-2013. [DOI: 10.1016/j.aeue.2013.06.001] [I.F: 2.924; Indexing: SCI; Publisher: ELSEVIER].
  52. **Kaushik Mandal** and Partha Prtim Sarkar, "High Gain Wide-Band U-Shaped Patch Antennas with Modified Ground Planes," *IEEE Transactions on Antennas and Propagation*, vol. 61, pp. 2279-

2282, April- 2013. [DOI: 10.1109/TAP.2012.2233455] [I.F: 4.371; Indexing: SCI; Publisher: IEEE Xplore].

53. **K. Mandal**, S. Sarkar and P. P. Sarkar, "Bandwidth enhancement of microstrip antennas by staggering effect," *Microwave and Optical Technology Letters*, vol. 53, no. 10, pp. 2446-2447, October- 2011. [DOI: 10.1002/mop.26299] [I.F: 0.957; Indexing: SCI Extended; Publisher: WILEY].

#### Patent:

1. Juin Acharjee, Mihir Kumbhakar, **Kaushik Mandal**, and Sujit Kumar Mandal, "A System and Method for Designing a Compact Multiband Antenna," **Australian Innovation Patent**, Patent number: 2021103584; Term of Patent: Eight years from 3<sup>rd</sup> July 2021.

#### Book Chapter Publications:

1. Ayan Pal, Arunabho Panja, Amibrata Samadder, Saswata Banerjee, Juin Acharjee, **Kaushik Mandal**, "Extended Microstrip Line-Fed Circularly Polarized Dielectric Resonator Antenna for WiMAX and 5G Applications," *In book: Trends in Wireless Communication and Information Security*, (Lecture Notes in Electrical Engineering book series (LNEE) vol. 740, pp. 27-36, Proceedings of EWCIS 2020. April 2021. [DOI: 10.1007/978-981-33-6393-9\_4] ISBN: 978-981-33-6392-2 (Print); 978-981-33-6393-9 (Online) (Best paper award winning).
2. Susamay Samanta, Sagnik Chakrabarti, Aniket Jana, P Soni Reddy, and **Kaushik Mandal**, "Miniaturized Flexible Monopole Antenna for Wearable Biomedical Applications," *In book: Advances in Medical Physics and Healthcare Engineering*, (Lecture Notes in Bioengineering) , pp. 415-421, December 2021, Springer Singapore. [DOI: 10.1007/978-981-33-6915-3\_41] ISSN: 21952728 2195271X, ISBN: 978-981-33-6914-6.
3. Priyanka Das, and **Kaushik Mandal**, "A novel design of FSS-based absorber integrated microstrip antenna," *In Book: Innovations in Electrical and Electronic Engineering (LNEE)*, pp. 505-512, vol. 756, Springer Singapore; *International Conference on Electrical and Electronics Engineering (ICEEE 2021)*, Delhi NCR, India, 2-3 January, 2021. [DOI: 10.1007/978-981-16-0749-3\_38] ISSN: 18761119 18761100, ISBN: 978-981-16-0748-6.
4. Juin Acharjee, Mihir Kumbhakar, **Kaushik Mandal**, and Sujit Kumar Mandal, "A Compact Multiband Antenna for Mobile Handset Application," *In book: Computers and Devices for Communication, LNNS*, vol. 147, pp. 116-123, February 2021, CODEC, December 19-20, 2019 [10.1007/978-981-15-8366-7\_16] ISBN: 978-981-15-8365-0 (Print); 978-981-15-8366-7 (Online) (Best poster award winning).
5. Priyanka Das, and **Kaushik Mandal**, "Design and Modelling of a FSS based Wideband Absorber," *In book: Computers and Devices for Communication, LNNS*, vol. 147, pp. 207-214, February 2021, *2019 7th International Conference on Computers and Devices for Communication (CODEC)*, December 19-20, 2019, [DOI: 10.1007/978-981-15-8366-7\_28] Institute of Radio Physics & Electronics, University of Calcutta. ISBN: 978-981-15-8365-0 (Print); 978-981-15-8366-7 (Online)
6. Gouri Shankar Paul, and **Kaushik Mandal**, "Miniaturized Multi-stopband Frequency Selective Surface for WLAN and X-Band Applications," *Proceedings of 2<sup>nd</sup> International Conference on Communication, Devices and Computing, Lecture Notes in Electrical Engineering (LNEE)*, vol. 602, pp. 131-137, December 2019. [DOI: 10.1007/978-981-15-0829-5\_13] [Springer Nature Singapore Pte Ltd. 2020]. ISSN: 1876-1119 (Online); 1876-1100 (Print).



## Conference Publications:

1. Nilanjan Dutta, Shrabani Mukherjee, and Kaushik Mandal, "Planar E-plane Horn Antenna with Multiband and High Gain Characteristics", 2022 *IEEE Microwaves, Antennas, and Propagation Conference (MAPCON)*, 12-16 December 2022. [DOI: 10.1109/MAPCON56011.2022.10047438]
2. Shrabani Mukherjee, Nilanjan Dutta, and Kaushik Mandal, "SIW Cavity Backed Elliptical Patch Antenna with Wideband Characteristics for 5G application", 2022 *IEEE Microwaves, Antennas, and Propagation Conference (MAPCON)*, 12-16 December 2022. [DOI: 10.1109/MAPCON56011.2022.10047319]
3. Priyanka Das, and **Kaushik Mandal**, "Dual-band Absorption using a Phase Transition Metal," 2022 *IEEE Wireless Antenna and Microwave Symposium (WAMS)*, June 2022, [DOI: 10.1109/WAMS54719.2022.9847787]
4. Priyanka Das, Chinmoy Saha, and **Kaushik Mandal**, "Mutual Coupling and RCS Reduction of MIMO Antenna using a hybrid technique," 2022 *IEEE Wireless Antenna and Microwave Symposium (WAMS)*, June 2022, [DOI: 10.1109/WAMS54719.2022.9848128]
5. Juin Acharjee, Gouri Shankar Paul, **Kaushik Mandal**, and Ali Lalbaksh, "Design and Analysis of Shorting Pin Loaded Triple Band Microstrip Patch Antenna with Enhanced Gain for Wireless Applications," 2021 *Photonics & Electromagnetics Research Symposium (PIERS)*, November 2021, [DOI: 10.1109/PIERS53385.2021.9694717]
6. Priyanka Das, and **Kaushik Mandal**, "An All-Dielectric FSS Inspired Reconfigurable Band-stop Filter," Proceedings of *IEEE International Conference on Advent Trends in Multidisciplinary Research and Innovation, ICATMRI 2020*, Buldana, Maharashtra, 30th December, 2020.. [DOI: 10.1109/ICATMRI51801.2020.9398489]
7. Priyanka Das, and **Kaushik Mandal**, "An Illustration of a novel All Dielectric 3D FSS based Band-Pass Filter," Proceedings of 2020 *IEEE 5th International Conference on Computing Communication and Automation, ICCCA*, December 2020. [DOI: 10.1109/ICCCA49541.2020.9250756]
8. Priyanka Das, and **Kaushik Mandal**, "Multiband Reflection and Transmission mode Linear to Circular Polarizer integrated Microstrip Patch Antenna," Proceedings of 2020 *International Symposium on Antennas and Propagation, APSYM 2020*, Cochin, 14-16 December 2020. [DOI: 10.1109/APSYM50265.2020.9350727]
9. Priyanka Das, and **Kaushik Mandal**, "Reconfigurable All Dielectric 3D FSS Filter," Proceedings of 2020 *International Symposium on Antennas and Propagation, APSYM 2020*, December 2020. [DOI: 10.1109/APSYM50265.2020.9350734]
10. Susamay Samanta, **Kaushik Mandal**, P. Soni Reddy, and N. Nasimuddin, "Circularly Polarized Metallic Post Integrated Patch Antenna for Road Transport and Traffic Telematics Application at 5.8 GHz DSRC Band," *URSI Regional Conference on Radio Science ( URSI-RCRS)*, IIT-BHU, February 2020. [DOI: 10.23919/URSIRCRS49211.2020.9113638].
11. Mrityunjay Kumar Ray, and **Kaushik Mandal**, "Wide Beamwidth Circularly Polarized Slot Loaded Microstrip Patch Antenna," 2019 *IEEE Indian Conference on Antennas and Propagation (InCAP)*, December 19-22, 2019. [DOI: 10.1109/INCAP.2018.8770851].
12. Susamay Samanta, **Kaushik Mandal**, P. Soni Reddy, and Partha Pratim Sarkar, "Investigation on Novel Quarter-Arc Shaped Clusters of Shorting Pins for Improvement in Cross-Polarization Discrimination of Diamond-Shaped Microstrip Patch Antenna," 2018 *IEEE Indian Conference on Antennas and Propagation (InCAP)*, December 16-19, 2018. [DOI: 10.1109/INCAP.2018.8770913].

13. Mrityunjoy Kumar Ray, and **Kaushik Mandal**, "Shorting Pin and Slot Loaded Dual Band Microstrip Antenna for MICS and GPS Applications," *2018 IEEE Indian Conference on Antennas and Propagation (InCAP)*, December 16-19, 2018. [DOI: 10.1109/INCAP.2018.8770851].
14. Juin Acharjee, **Kaushik Mandal**, and Sujit Kumar Mandal, "A Tri-Band Meander-Shaped Patch Antenna for WLAN and Radio Navigation Applications," *2018 IEEE Indian Conference on Antennas and Propagation (InCAP)*, December 16-19, 2018. [DOI: 10.1109/INCAP.2018.8770794].
15. Susamay Samanta, P Soni Reddy, and **Kaushik Mandal**, "New Dimension in Cross-Polarization Reduction of a Hexagonal Microstrip Antenna Using Two Circular Substrate Integrated Cavities," *Proc. of the 2017 IEEE Region 10 Conference (TENCON)*, Malaysia, pp. 1358-1363, November 5-8, 2017. (Best paper award winning) [DOI: 10.1109/TENCON.2017.8228069].
16. Santanu Mondal, **Kaushik Mandal** and Partha Pratim Sarkar, "Design of a Shorted Planar Mender-Line Metal Antenna," *IEEE International Conference on Microelectronics, Computing and Communication (MicroCom 2016)*, January 23-25, 2016. [DOI: 10.1109/MicroCom.2016.7522602].
17. Juin Acharjee, **Kaushik Mandal**, Sujit Kumar Mandal, and Partha Pratim Sarkar, "Rejection and Control of Higher Harmonics in a Microstrip Patch Antenna by Using Defected Ground Structure," *IEEE International Conference on Microelectronics, Computing and Communication (MicroCom 2016)*, January 23-25, 2016. [DOI: 10.1109/MicroCom.2016.7522478].
18. Juin Acharjee, **Kaushik Mandal**, Sujit Kumar Mandal, and Partha Pratim Sarkar, "Mutual Coupling Reduction between Microstrip Patch Antennas by Using a String of H-Shaped DGS," *IEEE International Conference on Microelectronics, Computing and Communication (MicroCom 2016)*, January 23-25, 2016. [DOI: 10.1109/MicroCom.2016.7522477].
19. Suprio Kundu, Manisha Kundu, and **Kaushik Mandal**, "Small Monopole Antenna with Corner Modified Patch for UWB Applications," *1st International Conference on Automation, Control, Energy and Systems, (ACES-2014)*, 01 - 02 February- 2014. [DOI: 10.1109/ACES.2014.6807975].
20. Vivek Kumar Agarwal, Anand Kumar Shaw, Mrinmoy Kr. Das, Jayati Mukherjee, and **Kaushik Mandal** "A Novel Compact Dual Frequency Microstrip Antenna," *2nd International Conference on Computer, Communication, Control and Information Technology (C3IT 2012)*, *Procedia Technology*, Vol. 4, pp. 427 - 430, 25 - 26 February- 2012, [DOI: 10.1016/j.protcy.2012.05.067].
21. **K. Mandal**, and P. P. Sarkar, "Gain Enhancement and Size Reduction of a Hexagonal Microstrip Antenna," *NCACD: National Conference on Advanced Communication Systems and Design Techniques*, 5-6 November- 2011, Haldia Institute of Technology, West Bengal, India.

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