



Brief Bio-sketch of Professor M.V. Kartikeyan

Professor M.V. Kartikeyan received the M.Sc. and Ph.D. degrees in physics and electronics engineering from Banaras Hindu University, Varanasi, India, in 1985 and 1992, respectively. He was a Research Scientist with the Central Electronics Engineering Research Institute, Pilani, India, from 1989 to 2001. He was with Institut für Hochleistungsimpuls-und Mikrowellentechnik, Karlsruhe Institute of Technology, Karlsruhe, Germany (1996, 1998-2000, 2001-2003; and during summers in 2004, 2005, 2006, 2007, 2008, 2011, 2012).

He joined the Department of Electronics and Computer Engineering, Indian Institute of Technology (IIT), Roorkee, India, as an Associate Professor, in 2003, and elevated to Full-Professor in 2009. He worked as Head of the Institute Computer Center (January 2012- April 2014) and Head of the Department of Electronics and Communication Engineering (May 2013 February 2016). He is the principal author of four books entitled: (i) Gyrotrons-High Power Microwave and Millimeter Wave Technology, (ii) Soft Computing Methods for Microwave and Millimeter Wave Design Problems, (iii) Fractal Apertures in Waveguides, Conducting Screens and Cavities-Analysis and Design, and (iv) Compact antennas for high data rate communications: Ultra-wideband (UWB) and Multiple-input-multiple-output (MIMO) technology (Springer, 2004/2012/2014/ 2017). His current research interests include millimeter/THz wave engineering (electron cyclotron masers and other high power devices and components), Metamaterials and fractals in RF domain, Planar microstrip antennas and filters for communications, Microwave integrated circuits, and RF and microwave design with soft computing techniques.

Prof. Kartikeyan is a Senior Member of IEEE, Fellow of the Institution of Engineering and Technology (UK), Institution of Electronics and Telecommunications Engineers (India), Institution of Engineers (India), and Vacuum Electronic Devices and Applications Society (India).

Prof. Kartikeyan is a member of Vacuum Electronics Technical Committee of the IEEE Electron Devices Society. He is serving in the Editorial Advisory Board of the Journal of Infrared, Millimeter and Terahertz Waves (Springer-Nature Engineering Journal). He is the reviewer of IEEE Transactions (Electron Devices, Plasma Science), IET (Electronics Letters, Microwaves, Antennas & Propagation MAP), EuMA International Journal of Microwave and Wireless Technologies, Tylor & Francis IETE Journal of Research, and PIER (Progress In Electromagnetics Research of the Electromagnetics Academy, USA).

Prof. Kartikeyan is a recipient of the Hildegard-Maier Research Fellowship for Electrical Sciences of the Alexander von Humboldt Foundation (1998-2000) and the Alexander von Humboldt Research Fellowship (2001-2003, 2011, 2012).

PROFILE OF PROFESSOR DR. M.V. KARTIKEYAN

*Department of Electronics & Communication Engineering
Millimeter/THz Wave Laboratory*

Indian Institute of Technology Roorkee, Roorkee 247 667, Uttarakhand, India

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International Research Awards for Professional Recognition

- # Recipient of the **Alexander von Humboldt Fellowship** (from July 2001 to June 2003, June/July 2011, June/July 2012).
- # Recipient of the **Hildegard–Maier Research Fellowship for Electrical Sciences by the Alexander von Humboldt Foundation** (from December 1998 to January 2000).

Academic and R&D Experience

Research and Development:–

Around 29 years of R&D experience at Central Electronics Engineering Research Institute (CEERI), Pilani, India, Institut für Hochleistungsimpuls- und Mikrowellentechnik (IHM), Karlsruhe Institute of Technology (formerly Forschungszentrum Karlsruhe), Germany, and Indian Institute of Technology Roorkee, Roorkee, India. Managed the following Grant-in-aid Sponsored Projects:

Year	Sponsoring Agency	External Cash Flow	PI or Co-PI	Status
1991–99	DAE	≈ Rs. 290 Lacs	Co-PI	Completed
2000–01	DAE	≈ Rs. 100 Lacs	Co-PI	Completed
2004–07	MHRD	Rs. 8 Lacs	PI	Completed
2006–15	DST	Rs. 84.60 Lacs	PI	Completed
2014–15	DRDO	Rs. 9.60 Lacs	PI	Completed
2015–18	DST	Rs. 380.00 Lacs	PI/Coordinator	FIST Grant
2016–18	DRDO	Rs. 30.00 Lacs	PI	On-going
2016–19	DRDO	Rs. 59.75 Lacs	Co-PI	On-going
2017–20	DRDO	Rs. 36.10 Lacs	PI	On-going
2017–20	DST	Rs. 40.49 Lacs	Co-PI	On-going
2017–18	RICET	Rs. 16.00 Lacs	PI	On-going
2017–	MHRD (SMILE)	Rs. 208.73 Lacs	Co-PI	On-going

Academics:–

- * Working as Head, Department of Computer Science and Engineering, Indian Institute of Technology Roorkee (IITR), India (Since October 2017 - Till date).
- * Working as Associate Dean, Faculty Affairs, Indian Institute of Technology Roorkee (IITR), India (Since April 2017 - Till date).
- * Worked as the Head, Department of Electronics & Communication Engineering, Indian Institute of Technology, Roorkee (IITR), India (May 2013-February 2016).

- * Worked as the Head, Institute Computer Center, Indian Institute of Technology, Roorkee (IITR), India (January 2012-April 2014)
- * Working as a Full-Professor since September 2009 in the Department of Electronics and Computer Engineering, Indian institute of Technology, Roorkee (IITR), India.
- * Worked as an Associate Professor from July 2003 to August 2009 at IITR.
- * Number of Theses Guidance:–

Ph.D. 13 completed and 7 in progress

M.Tech. $\approx$ 39 completed and 3 in progress

B.Tech. $\approx$ 56 completed and 6 in progress

Publications

Books: 4 for Springer-Verlag, Berlin-Heidelberg, Germany

Journals: $\approx$ 87

Conferences: $\approx$ 205

Technical Reports: $\approx$ 12

Academic, R&D, and Industrial Links

India :- DRDO (MTRDC, LRDE, DLRL, RCI), CSIR (CEERI), BEL, IIT-BHU, DAE (RR-CAT, IPR)

Abroad :- KIT (IHM, IHE), Germany; FIR Center, Fukui University (Japan), MMPL, Oulu University (Finland)

Membership of Professional Bodies

Fellow :- IET (UK), IETE (India), IE (India), VEDA (India)

Senior Member :- IEEE (USA)

Member :- EuMA (EU), PSSI (India)

Outlook

- To excel in the field of High Power Millimeter & THz Wave Engineering (sources and components), Metamaterials, Fractals, Planar Antennas, Filters, Microwave Integrated Circuits, and Soft-computing in Microwave Domain.



Detailed Curriculum Vitae

PROF. DR. M.V. KARTIKEYAN

PH.D; FIETE; FIE; FVEDAS; FIET; HUMBOLDTIAN

PROFESSOR OF RF ENGINEERING

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Education

- * Ph.D. in 1992 from the Institute of Technology, Banaras Hindu University, Varanasi, India.
- * Master of Science in 1985 from the Banaras Hindu University, Varanasi, India.

Areas of Research Interest

- Millimeter and THz Wave Engineering (Electron Cyclotron Masers and other High Power Devices, allied sub-systems and quasi-optical transmission Components), Metamaterials, Fractals, Planar Antennas, Filters, Microwave Integrated Circuits, and Soft-computing in Microwave Domain.

Professional Experience

Academics and R&D:–

- * Working as Head, Department of Computer Science and Engineering, Indian Institute of Technology Roorkee (IITR), India (Since October 2017 - Till date).
- * Working as Associate Dean, Faculty Affairs, Indian Institute of Technology Roorkee (IITR), India (Since April 2017 - Till date).
- * Worked as the Head, Department of Electronics & Communication Engineering, Indian Institute of Technology, Roorkee (IITR), India (May 2013-February 2016).
- * Worked as the Head, Institute Computer Center, Indian Institute of Technology, Roorkee (IITR), India (January 2012-April 2014)
- * Full–Professor since September 2009 in the Department of Electronics and Communication Engineering, Indian institute of Technology, Roorkee (IITR), India.
- * Worked as an Associate Professor from July 2003 to August 2009 at IITR.

- * Worked as Research Scientist at the Institut für Hochleistungsimpuls- und Mikrowellentechnik, Karlsruhe Institute of Technology, Karlsruhe, Germany, from July 2001 to June 2003 (with a special bequest of the *AvH Stiftung, Bonn, Germany*, for *long-term cooperation*).
- * Worked as a Research Scientist in Central Electronics Engineering Research Institute, Pilani, India, from January 1989 to June 2001.

S.No.	Designation	Organization with Address	Position	Duration
1.	Professor	IIT-Roorkee	Professor Head, Dept. ECE Head, ICC Chairman, Inst. Library Adv. Cmt. Associate Dean Faculty Affairs	09/2009 - Till Date 05/2013-02/2016 01/2012-04/2014 05/2016 - Till Date 04/2017 - Till Date
2.	Associate Professor	IIT-Roorkee	Associate Professor	07/2003-09/2009
3.	Visiting Scientist	KIT/IHM Karlsruhe Germany	AvH Fellow Hildegard-Maier Fellow (AvH Bequest) CSIR-DLR Fellow	07/2001-06/2003 10/1998-01/2001 01/1996-09/1996
4.	Scientist	CEERI-Pilani	Scientist (B&C)	01/1989-06/2001

Work Experience in Various R&D Areas :-

- * Design and Development of Planar Antennas and Filters for Wireless Communications (July 2003 – till date at IITR, Roorkee, India).
- * Investigations on Metamaterials, Defected Ground Structures, and Fractals for Planar Microwave Circuits/Antennas (July 2003 – till date at IITR, Roorkee, India).
- * Design of Specific Gyrotrons for thermonuclear fusion reactors and other ISM Applications (July 2003 – till date at IITR, Roorkee, India).
- * Design and development of high power gyrotrons for plasma fusion and industrial applications (Jan–Sept 1996, Dec. 1998 – Jan. 2000, July 2001–June 2003, at KIT, Karlsruhe, Germany).
- * Design and development of specific high power microwave sources and allied Transmission Line Components for Accelerators and Synchrotron Radiation Sources (Jan. 1989 – June 2001, CEERI, Pilani, India).

Grant-in-aid Sponsored Projects (as Principal/Co- Investigator):-

Year	Sponsoring Agency	External Cash Flow	PI or Co-PI	Status
1991-99	DAE	≈ Rs. 290 Lacs	Co-PI	Completed
2000-01	DAE	≈ Rs. 100 Lacs	Co-PI	Completed
2004-07	MHRD	Rs. 8 Lacs	PI	Completed
2006-15	DST	Rs. 84.60 Lacs	PI	Completed
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2017-20	DST	Rs. 40.49 Lacs	Co-PI	On-going
2017-18	RICET	Rs. 16.00 Lacs	PI	On-going
2017-	MHRD (SMILE)	Rs. 208.73 Lacs	Co-PI	On-going

Teaching Experience (Courses Offered and Research Guidance) :-

List of courses offered :-

- Computational Techniques for Microwaves
- RF & Microwave MEMS
- RF Receiver Design for Wireless Applications
- Microwave & Millimeter Wave Integrated Circuits
- Fiber Optic Systems
- Advanced Microwave Engineering
- Microwave Theory & Techniques
- Antennas & Wave Propagation
- Antenna Theory & Design
- Basic Electronics (Devices & Circuits)
- Microwaves (Laboratory)
- Advanced Microwaves (Laboratory)
- Digital Switching Circuits (Laboratory)
- Basic Electronics (Laboratory)

Research Guidance:-

⇒ Ph.D. (s) Completed:

- (i) Savitesh M. Sharma (ECE/2018): *FinFETs for RF applications*; Co-supervisor: Dr. Sudeb Dasgupta (IITR).
- (ii) Sukwinder Singh (ECE/2017): *Analysis of coaxial cavity with triangular corrugations on the insert for gyrotrons*.
- (iii) Gaurav Singh Baghel (ECE/2017): *Investigations on multi-frequency high power gyrotron oscillators*.

- (iv) Leeladhar Malvy (ECE/2017): *Some studies on MIMO antennas with diversity techniques for wireless applications*; Co-supervisor: Dr. R. Panigrahi (IITR)
 - (v) Jagannath Malik (ECE/2016): *Compact UWB and MIMO antennas for high-speed communications*.
 - (vi) Amanpreet Kaur (ECE/2016, External Candidate from Thaper Univeersity): *Studies on stacked patch antennas for WLAN applications*; Co-supervisor: Prof. Rajesh Khanna (Thaper University)
 - (vii) Pravin Prajapati (ECE/2015): *Investigations on polarization agile planar antennas with defected ground structures*; Co-supervisor: Dr. A. Patnaik (IITR)
 - (viii) Jaswinder Kaur (ECE/2014, External Candidate from Thaper Univeersity): *Multi-frequency wideband microstrip patch antenna for wireless applications*; Co-supervisor: Prof. Rajesh Khanna (Thaper University)
 - (ix) Arjun Kumar (ECE/2014): *Investigation on Microstrip Filters with Defected Ground Structure*.
 - (x) Ashwini Kumar Arya (ECE/2012): *Design Study of Specific Microstrip Antennas with Defected Ground Structure*; Co-supervisor: Dr. A. Patnaik (IITR)
 - (xi) Narendra Chauhan (ECE/2009): *Soft Computing for Design Applications of Microwave Domain*; Co-supervisor: Dr. Ankush Mittal (IITR)
 - (xii) Basudeb Ghosh (ECE/2009): *Investigations on Fractal Apertures in Conducting Screens, Waveguides and Cavities*; Co-supervisor: Prof. SN Sinha (IITR)
 - (xiii) K. Solomon Raju (ECE/2008): *System Level Architectures and Optimal Mapping for Reconfigurable Computing*; Co-supervisors: Prof. RC Joshi (IITR) and Dr. Chandra Sekhar (CSIR-CEERI)
- ⇒ Ph.D. (s) in progress:
- (i) Kumar Goodwill (ECE): *Modulated metasurfaces for printed antennas*.
 - (ii) S. Yuvaraj (ECE): *Coaxial cavity with triangular corrugated insert for multi-megawatt class gyrotrons*.
 - (iii) Sambaiah Pelluri (ECE): *Investigations on multi-functional microstrip filters*.
 - (iv) Alok Mishra (ECE): *Electron optical system for specific high power gyrotrons*; Co-supervisor: Dr. Anirban Bera, CSIR-CEERI, Pilani.
 - (v) Raj Kumar (ECE): *Phased array antennas for communications*.
 - (vi) Tejas Laheri (ECE): *Investigations on specific coupled resonator microstrip filters*.
 - (vii) Surbhi Adya (ECE): *Design of second harmonic gyrotrons for ISM applications*.

⇒ M.Tech. (s) Completed:

- (1) Anupam Mullick (ECE/2017): *Shared aperture antennas.*
- (2) Paranayan Manna (ECE/2017): *Design of UWB monopole antenna with multiple band notches.*
- (3) Neha Singh (ECE/2017): *High impedance Surfaces for antenna design.*
- (4) Nupur Sood (ECE/2017): *Metamaterial and metasurfaces for antenna design.*
- (5) Tejas Laheri (ECE/2016): *The multi-band filter design.*
- (6) Priyanka Bansal (ECE/2016): *Design of MIG and RF behavior of megawatt class coaxial cavity gyrotron.*
- (7) Diksha Nagpal (ECE/2016): *Design and analysis of ultra-wideband vivaldi antenna.*
- (8) Marampally Saikiran (ECE/2015): *Improving the performance of LC VCO using threshold voltage control techniques.*
- (9) M. Srinivasulu (ECE/2015): *Circularly polarized fractal antennas.*
- (10) Aditi Purwar (ECE/2015): *Design Studies on MIMO antenna for LTE applications.*
- (11) Alka (ECE/2014): *Investigations on a 95 GHz, 100 kW second harmonic gyrotron.*
- (12) Ravi Kumar Dhakad (ECE/2014): *Studies on a 170 GHz megawatt class CW gyrotron operating in the TE_{28,12} mode.*
- (13) Veenu Kamra (ECE/2014): *Study and analysis of parasitic oscillations in gyrotrons* (Co-supervisor: Prof. John Jelonnek, KIT, Germany).
- (14) GKG Murthy (ECE/2014): *Study and design of circularly polarized antenna for wireless applications.*
- (15) Vishal Vasishta (EE/2014): *Design, analysis and fabrication of dielectric resonator.*
- (16) Aswini Sawant (ECE/2013): *Design study of a 42/84 GHz, 500 kW CW dual frequency regime gyrotron.*
- (17) Prerit Jain (ECE/2013): *Design studies of a 30 GHz, 30 kW, CW decond harmonic gyrotron.*
- (18) Divya Agarwal (ECE/2013): *Design and evaluation of compact planar anten-nas utilizing pattern diversity for MIMO wireless applications.*
- (19) Ramesh Patel (Physics/2013): *PIFA antenna for wireless applications* (Co-supervisor: Prof. R. Nath, IITR).
- (20) Anish Goel (ECE/2013): *Design and optimization studies of bandstop filters unsing specific DGS structures for WLAN applications.*
- (21) V. Paritosh Kumar (ECE/2013): *Design of ultra wide band antenna with tunable notch.*

- (22) Parth Kalaria (ECE/2012): *Design studies of a 170 GHz, 1.0-1.5 MW CW gyrotron for plasma heating.*
- (23) Nischey Grover (ECE/2012): *Studies on planar antennas utilizing pattern diversity for MIMO wireless applications.*
- (24) P. Vamshi Krishna (ECE/2011): *Conceptualization of a 95 GHz, 100 kW CW gyrotron.*
- (25) Jagannath Malik (ECE/2011): *Design studies of microstrip patch antennas with specific metamaterial structures for WLAN applications.*
- (26) Harshvardhan Tiwari (ECE/2010): *Studies on specific stacked microstrip patch antennas for dual-band applications.*
- (27) Ankur Aggarwal (ECE/2010): *Study of fractal patch antennas for wireless application.*
- (28) Divya Goel (ECE/2010): *Multi-objective optimization using evolutionary algorithms for computation intensive applications.*
- (29) Ragini Jain (ECE/2010): *Design of a 60 GHz, 100 kW CW gyrotron for plasma diagnostics.*
- (30) Arun Kumar Sowpati (ECE/2009): *Performance of printable antennas with different conductor thickness.*
- (31) Satya Priya Singh (ECE/2009): *Studies on microstrip patch antenna using defected ground structures for wireless applications.*
- (32) Pankhuri (ECE/2009): *Studies on full- ψ and half- ψ microstrip patch antennas for specific dual band WLAN application.*
- (33) Vivek Gupta (ECE/2008): *Studies on microstrip patch antennas with defected ground structure.*
- (34) Sangam Pal Gautam (ECE/2008): *Studies on specific microstrip antenna for WLAN applications.*
- (35) Prakhya Avinash (ECE/2008): *Study and design of UWB M-shaped monopole and Vivaldi antennas for wireless applications.*
- (36) K. Swathi (ECE/2007): *Design of aperture coupled microstrip antenna with L-shaped coupling slot for wideband circular polarization.*
- (37) Kshitiz Agarwal (ECE/2006): *Design of a dual feed stacked patch circularly polarized microstrip antenna using a feed system on opposite side of ground plane (Co-supervisor: Prof. NK Agarwala, IITR).*
- (38) Purnachandrarao Gugulotu (ECE/2006): *Design of multiple beam forming network with E-shaped microstrip patch antenna for switched beam antenna systems (Co-supervisor: Prof. NK Agarwala, IITR).*
- (39) Arun Kumar (ECE/2005): *Studies on stacked patch aperture coupled circularly polarized microstrip antenna with slits.*

Academic, R&D, and Industrial Links

- Institute for Plasma Research (IPR), Gandhinagar, India.
- Central Electronics Engineering Research Institute (CEERI), Pilani, India.
- Microwave Tubes Research and Development Center (DRDO), Bangalore, India.
- Bharat Electronics (formerly BEL), Bangalore, India.
- IHE, KIT, Karlsruhe, Germany.
- Microelectronics and Material Physics Laboratory, Uni. of Oulu, Finland.
- Inst. of Pulsed Power & Microwave Technology, KIT, Karlsruhe, Germany.
- Dept. of Engineering, Fukui University, Japan.

International Research Awards for Professional Recognition

- # Recipient of the *Hildegard–Maier Research Fellowship for Electrical Sciences by the Alexander von Humboldt Foundation* (from December 1998 to January 2000).
- # Recipient of the *Alexander von Humboldt Fellowship* (from July 2001 to June 2003).
- # Recipient of the *Alexander von Humboldt Fellowship* under re-invitation programme (June/July 2011 and June/July 2012).

Membership of Professional Bodies

- Fellow, IET (Inst. of Engineering and Technology, UK) # 1100390265
- Fellow Life, IETE (Inst. Electronics and Telecom. Engineers, India) # F138559
- Fellow Life, IE (Inst. of Engineers, India) # F109688-1
- Fellow Life, VEDAS (Vac. Elec. Devices & Applications Society, India) # F050L
- Senior Member, IEEE (USA) # 41584566
- Member, European Microwave Association (EuMA) # AM2797
- Member Life, PSSI (Plasma Science Society, India) # LM-648

Other Significant Contributions

- Member, Vacuum Electronics Technical Committee (VETC), IEEE Electron Devices Society, USA
- Member, Editorial Board, Journal of Infrared, Millimeter and Terahertz Waves (a Springer-Nature Engineering Journal with IF ≈ 2.54)
- Reviewer, IEEE Transactions (TED, MTT, PS)
- Reviewer, J. Infrared, Millimeter & Terahertz Waves
- Reviewer, EuMA Journal on Microwave and Wireless Technologies
- Progress in Electromagnetics Research (PIER, Academy of Electromagnetics)
- Indian J. IETE (Tylor & Francis Journal)

Outlook

- To excel in the field of High Frequency Engineering for clean energy, communications and for specific ISM applications.

List of Publications

Books

4. Jagannath Malik, Amalendu Patnaik, **M.V. Kartikeyan**, “*Compact antennas for high data rate communications: Ultra-wideband (UWB) and Multiple-input-multiple-output (MIMO) technology*,” Series: Springer Topics in Signal Processing, Vol. 14, 2018 (ISBN 978-3-319-63174-5).
3. Basudeb Ghosh, Sachendra N. Sinha, **M.V. Kartikeyan**, “*Fractal Apertures in Conducting Screens, Waveguides, and Antennas: Analysis and Design*,” Springer Series in Optical Sciences, Vol. 187, Springer-Verlag, Berlin-Heidelberg, Germany, 2014 (ISBN 978-3-319-06534-2).
2. N.C. Chauhan, **M.V. Kartikeyan**, A. Mittal, “*Soft Computing Methods for Microwave and Millimeter Wave Design Problems*,” Studies in Computational Intelligence Series, Springer-Verlag, Berlin-Heidelberg, Germany, 2012 (ISBN 978-3-642-25562-5).
1. **M.V. Kartikeyan**, E. Borie, and M. Thumm, “*Gyrotrons – High Power Microwave and Millimeter Wave Technology*,” Springer-Verlag, Berlin-Heidelberg, Germany, 2004 (ISBN 3-540-40200-4).

Journals

89. Gaurav Singh Baghel, **M.V. Kartikeyan**, “*Output System of A 220/247.5/275 GHz, 1.0MW, Triple Frequency Regime Gyrotron*,” **IEEE Trans. Electron Devices (Accepted)**, February 2018.
88. Leeladhar Malviya, R.K. Panograhi, **M.V. Kartikeyan**, “*Offset planar MIMO antenna for omni-directional radiation patterns*,” International Journal of RF and Microwave Computer-Aided Engineering (Accepted), February 2018.
87. S. Yuvaraj, **M.V. Kartikeyan**, Manfred Thumm, “*RF Behavior of a 220/251.5 GHz, 2MW, triangular corrugated coaxial cavity gyrotron*,” **IEEE Trans. Electron Devices**, vol. 64, no. 10, pp. 4287-4294, October 2017.
86. Sukhwinder Singh, **M.V. Kartikeyan**, “*Full wave analysis of plasma loaded coaxial gyrotron cavity with triangular corrugations on the insert*,” **IEEE Trans. Electron Devices**, vol. 64, no. 5, pp. 2369-2375, May 2017.
85. Leeladhar Malviya, Rajib K. Panigrahi, **M.V. Kartikeyan**, “*MIMO antennas with diversity and mutual coupling reduction techniques: a review*,” International Journal of Microwave and Wireless Technologies, DOI:10.1017/S1759078717000538, pp. 1-18, May 2017.
84. Gaurav Singh, **M.V. Kartikeyan**, Manfred Thumm, “*A 220/247.5/275 GHz, 1.0 MW, triple frequency regime gyrotron*,” **IEEE Trans. Electron Devices**, vol. 64, no. 4, pp. 1774-1780, April 2017.
83. Sukhwinder Singh, **M.V. Kartikeyan**, “*Full wave analysis of coaxial gyrotron cavity with triangular corrugations on the insert*,” **IEEE Trans. Electron Devices**, vol. 64, no. 4, pp. 1756-1762, April 2017.

82. Leeladhar Malviya, Rajib K. Panigrahi, **M.V. Kartikeyan**, "A low profile planar MIMO antenna with polarization diversity for LTE 1800/1900 applications," *Microwave and Optical Technology Letters*, DOI:10.1002/mop.30329, Vol. 59, Issue 3, pp. 533-538, March 2017.
81. Savitesh M. Sharma, Sudeb Dasgupta, **M.V. Kartikeyan**, "Successive Conformal Mapping Technique to extract Inner Fringe Capacitance of Underlap DG-FinFET and its variations with Geometrical Parameters," *IEEE Trans. Electron Devices*, vol. 64, no. 2, pp. 384-391, February 2017.
80. Arjun Kumar, Ramesh Patel, **M.V. Kartikeyan**, "Investigation on microstrips filters with CSRR defected ground structure," *Advanced Electromagnetics*, vol.5, no.2, August 2016.
79. Arjun Kumar, **M.V. Kartikeyan**, "Design and realization of microstrip filters with new defected ground structure (DGS)," *Eng. Sci. Tech., Int. J.*, <http://dx.doi.org/10.1016/j.jestch.2016.10.015>, 2016.
78. Gaurav Singh Baghel, Stefan Illy, **M.V. Kartikeyan**, "I/O System for a 77/154 GHz, 0.5 MW, dual regime gyrotron," *IEEE Trans. Electron Devices*, vol. 63, no.11, pp. 4459-4465, November 2016.
77. S. Singh **M. V. Kartikeyan**, "Analysis of plasma-loaded noncorrugated and triangular corrugated coaxial cavity," *IEEE Trans. Electron Devices*, vol. 63, no. 10, pp. 4060-4066, October 2016.
76. Pravin R. Prajapati, Amalendu Patnaik, **M.V. Kartikeyan**, "Improved DGS parameter extraction method for the polarization purity of circularly polarized microstrip antenna," *International Journal of RF and Microwave Computer-Aided Engineering* (published online, DOI: 10.1002/mmce.21029), August 2016.
75. Gaurav Singh Baghel, **M.V. Kartikeyan**, "Extended RF behavior of a 77/154 GHz, 0.5 MW, continuous wave gyrotron," *IEEE Trans. Electron Devices*, vol. 63, no. 6, pp. 2538-2543, June 2016.
74. Leeladhar Malviya, Rajib K. Panigrahi, **M.V. Kartikeyan**, "A 2×2 Dual-band MIMO antenna with polarization diversity for wireless applications," *Progress In Electromagnetics Research C*, vol. 61, pp. 91-103, January 2016.
73. Jagannath Malik, Diksha Nagpal, **M.V. Kartikeyan**, "MIMO antenna with omnidirectional pattern diversity," *IET Electronics Letters*, vol. 52, no. 2, pp. 102-104, 2016.
72. Jaswinder Kaur, Rajesh Khanna, **M.V. Kartikeyan**, "Novel Dual Band Microstrip Monopole Antenna With Defected Ground Structure for WLAN/IMT/Bluetooth/WiMAX Applications," *International Journal of Microwave and Wireless Technologies*, vol. 6, no. 1, pp. 93-100, 2014.
71. Jaswinder Kaur, Rajesh Khanna, **M. V. Kartikeyan**, "Optimization and Development of O-Shaped Triple band Microstrip Patch Antenna for Wireless Communication Applications," *IETE Journal of Research*, vol. 60, no. 2, pp. 95-105, 2014.

70. Amanpreet Kaur, Rajesh Khanna, **M.V. Kartikeyan**, “*A multilayer dual wide-band circularly polarized microstrip antenna with DGS for WLAN/ Bluetooth/ ZigBee/ Wi-Max/ IMT band applications*,” International Journal of Microwave and Wireless Technologies, pp. 1-9, doi: 10.1017/S1759078715001294, Published on line: 25 August 2015.
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