

## PUBLICATIONS

### Books- Published

1. **Karuppanan Pitchai**, Vishnu Shankar and Raj Kumar “Basic Truncated and MultiModulus Multiplier” published by Lambert Academic Publishing, July-2015 (ISBN: 9783659759109)
2. **P Karuppanan** “Active Power Line Conditioner” published by Lambert Academic Publishing, Aug-2014 (ISBN: 978-3-659-59318-5)

### Book Chapter- Published

1. Pawar Dhiraj Kumar, Ritesh Kumar Kushwaha, **P Karuppanan**, “Design and Analysis of Low Power SRAM”, Advances in VLSI, Communication, and Signal Processing. Lecture Notes in Electrical Engineering, vol 683. Springer 2020; DOI:[https://doi.org/10.1007/978-981-15-6840-4\\_4](https://doi.org/10.1007/978-981-15-6840-4_4)
2. Ritesh Kumar Kushwaha, Prem Kumar, and **P. Karuppanan**. "Study and Analysis of Low Power Dynamic Comparator." Advances in VLSI, Communication, and Signal Processing. Lecture Notes in Electrical Engineering, vol 587, pp 435-449, Springer 2019; DOI: [https://doi.org/10.1007/978-981-32-9775-3\\_40](https://doi.org/10.1007/978-981-32-9775-3_40)
3. Vipin Das, **P. Karuppanan**, V. Karthikeyan, S. Rajasekar, Asheesh Kumar Singh “Energy Grid Management, Optimization and Economic Analysis of Microgrid” book Series: Green Energy and Technology, Springer International Publishing, 2017 (ISBN: 978-3-319-50196-3)
4. V. Karthikeyan, S. Rajasekar, Vipin Das, **P. Karuppanan**, Asheesh Kumar Singh “Grid-Connected and Off-Grid Solar Photovoltaic System” book Series: Green Energy and Technology, Springer International Publishing, 2017 (ISBN: 978-3-319-50196-3)

### SCI-Journals

1. RK Kushwaha and **P. Karuppanan** “Proximity-coupled high gain graphene patch antenna using holey dielectric superstrate for terahertz applications” *Optik - International Journal for Light and Electron Optics*, Vol.240, Aug-2021; ISSN. 0030-4026; doi: <https://doi.org/10.1016/j.ijleo.2021.166793>
2. Ritesh Kumar Kushwaha & P. Karuppanan “Investigation and design of microstrip patch antenna employed on PCs substrates in THz regime” *Australian Journal of Electrical and Electronics Engineering*, Vol.18, No.2, Pp. 118-125, June-2021, DOI: 10.1080/1448837X.2021.1936779
3. RK Kushwaha, P Karuppanan & N Kishore “High-gain patch antenna design using PRS and ground plane reflector for THz band applications” *Optik - International Journal for Light and Electron Optics*, Vol. 232, April-2021; ISSN: 0030-4026; doi: <https://doi.org/10.1016/j.ijleo.2021.166559>
4. RK Kushwaha, **P. Karuppanan** and RK Dewang. "Design of a SIW On-chip Antenna using 0.18- $\mu\text{m}$  CMOS Process Technology at 0.4 THz", *Optik - International Journal for Light and Electron Optics*, Vol. 223, Dec-2020; ISSN: 0030-4026; doi: <https://doi.org/10.1016/j.ijleo.2018.08.139>.
5. RK Kushwaha and **P. Karuppanan** “Enhanced radiation characteristics of graphene-based patch antenna array employing photonic crystals and dielectric grating for THz applications” *Optik - International Journal for Light and Electron Optics*, Vol.200, Jan-2020; ISSN. 0030-4026; doi/10.1016/j.ijleo.2019.163422
6. RK Kushwaha and **P Karuppanan** “Parasitic-coupled high-gain graphene antenna employed on PBG dielectric grating substrate for THz applications” *Microwave and Optical Technology Letters*, Vol.62, No.1, Sept-2019; ISSN.0895-2477; DOI:10.1002/mop.32033

7. RK Kushwaha and **P Karuppanan** “Design and analysis of Vivaldi antenna with enhanced radiation characteristics for mm-wave and THz applications” *Optical and Quantum Electronics*, Vol.51, No.9, Sept-2019; ISSN.0306-8919; doi.org/10.1007/s11082-019-2032-4
8. RK Kushwaha and **P Karuppanan**, Yogesh Srivastava “Proximity feed multiband patch antenna array with SRR and PBG for THz applications” *Optik - International Journal for Light and Electron Optics*, Vol.175, pp. 78-86, Dec-2018; ISSN.0030-4026; doi:10.1016/j.ijleo.2018.08.139
9. RK Kushwaha and **P Karuppanan** and L.D.Malviya ‘Design and analysis of novel microstrip patch antenna on photonic crystal in THz’ *Physica B: Condensed Matter*, Vol.545, No.15, pp. 107-112, Sept-2018; doi.org/10.1016/j.physb.2018.05.045
10. **P Karuppanan**, Kamran Khan and Soumya Ranjan Ghosh ‘Dynamic gate and substrate control charge pump circuits: a review’ *Analog Integrated Circuits Signal Process, Springer Netherland*, Vol.83, No.2, pp.257–270, April-2015; ISSN:0925-1030, doi:10.1007/s10470-015-0521-3
11. **Karuppanan P** and Kamala Kanta Mahapatra ‘Active harmonic current compensation to enhance power quality’ *International Journal of Electrical Power & Energy Systems, Elsevier England*, Vol.62, No. 9, pp.144-151, Nov-2014; ISSN:0142-0615, doi:10.1016/j.ijepes.2014.04.018
12. **Karuppanan P** and Kamala Kanta Mahapatra ‘Digital Non-Linear Controller based Active Power Filter for Harmonic Compensation’ *IETE Journal of Research*, Taylor & Francis India, Vol.59, No.4, pp.302-311, Aug-2013; ISSN:0377-2063, doi: 10.4103/0377-2063.118003
13. **Karuppanan P** and Kamala Kanta Mahapatra ‘PI and fuzzy logic controllers for shunt active power filter — A report’ *ISA Transactions, Elsevier United States*, Vo.51, No.1, pp.163–169, Jan-2012; ISSN:0019-0578, doi: 10.1016/j.isatra.2011.09.004

### Scopus- Journals

1. Vipin Das, **Pitchai Karuppanan**, A K Singh & P Thakur “Optimal Sizing and Control of Solar PV-PEMFC Hybrid Power Systems” *International Journal of Mathematical, Engineering and Management Sciences* Vol. 6, No. 4, pp.1137-1156, 2021 doi: https://doi.org/10.33889/IJMEMS.2021.6.4.068
2. Karuppanan P ‘Active Power Filter using a Novel Adaptive Fuzzy Hysteresis Current Controller’ *International Journal of Power Electronics*, Vol. 10, No. 4, April-2019; DOI: 10.1504/IJPELEC.2019.102503
3. P. Vipin Das, **P. Karuppanan**, Asheesh Kumar Singh & B. Chitti Babu “Modelling, simulation and analysis of high step up DC-DC converter using coupled inductor and voltage multiplier cell using PSCAD, *International Journal of Modelling and Simulation*, Oct- 2018; DOI:10.1080/02286203.2018.1517494
4. **Karuppanan P** and Anuradha Kumari ‘Study and analysis of a simple self cascode RGC amplifier’ *IJE TRANSACTIONS C: Aspects*, Vol. 31, No. 9, pp. 1226-1234, Sept- 2018; ISSN:2423-7167; doi.10.5829/IJE.2018.31.10A.04
5. **P Karuppanan** ‘Field Programmable Gate Array Based Three-Phase Cascaded Multilevel Voltage Source Inverter, *Journal of Electrical Engineering*, Vol.17, No.4, pp.1-9, Dec-2017; ISSN:1582-4594
6. **Karuppanan P**, Ghosh Soumya Ranjan, Khan Kamran ‘A Fully Differential Operational Amplifier with Slew Rate Enhancer and Adaptive Bias for Ultra Low Power’ *Journal of Low Power Electronics*, American Scientific Publisher, Vol. 13, No.1, pp. 67-75, March-2017; ISSN.15461998, <https://doi.org/10.1166/jolpe.2017.1467>

7. Pavankumar Bikki and **P Karuppanan**, ‘Analysis of Low power and Small swing self-biasing CMOS design’ *Far east journal of electronics and communication, Pushpa Publishing House*, Vol. 3, No.1, pp. 245-261, Oct-2016; ISSN: 0973-7006, doi: [10.17654/ECSV3PI16245](https://doi.org/10.17654/ECSV3PI16245).
8. **Karuppanan P** and Kamala Kanta Mahapatra ‘Active Power Line Conditioners for Power Quality Enhancement’ *International Journal of Power Electronics, Inderscience*, Vol.5, No.3/4, pp.262-279, Oct-2013; ISSN: 1756-6398 doi: [10.1504/IJPELEC.2013.057049](https://doi.org/10.1504/IJPELEC.2013.057049)
9. **Karuppanan P**, Ayas Kanta Swain, Kamala Kanta Mahapatra “FPGA based Single-phase Cascaded Multilevel Voltage Source Inverter Fed ASD Applications” *Journal of Electrical Engineering*, Vol.11, No.3, pp.102-107, Oct-2011; ISSN:1582-4594
10. **Karuppanan P** and Kamala Kanta Mahapatra “Adaptive-Fuzzy Controller Based Shunt Active Filter for Power Line Conditioners” *TELKOMNIKA Journal of Electrical Engineering*, Vol. 9, No.2, pp. 201-208, Aug-2011; ISSN:1693-6930, doi: [10.12928/telkomnika.v9i2.688](https://doi.org/10.12928/telkomnika.v9i2.688)

### **Prestigious Academic Journals**

1. Vipin Das, Asheesh K. Singh, **P Karuppanan**, Pradeep K, S N Singh, and V G Agelidis. "Energy management and economic analysis of multiple energy storage systems in solar PV/PEMFC hybrid power systems. “Energy Conversion and Economics Vol. 1, No. 2. pp.124-140, July-2020; doi: [10.1049/enc2.12011](https://doi.org/10.1049/enc2.12011)
2. Pavankumar Bikki and **P Karuppanan**, ‘SRAM Cell Leakage Control Techniques for Ultra Low Power Application: A Survey’ *Circuits and Systems, Scientific Research Publishing*, Vol. 8, pp.23-52, Feb-2017; ISSN:2153-1293, doi:[10.4236/cs.2017.82003](https://doi.org/10.4236/cs.2017.82003).
3. **Karuppanan P** and Kamala Kanta Mahapatra “PI, PID and Fuzzy Logic Controlled Cascaded Voltage Source Inverter based Active Filter for Power Line Conditioners” *WSEAS Transaction on Power Systems*, Vol.6, No.4, pp.100-109, Oct-2011; ISSN: 1790-5060
4. **Karuppanan P**, Kamala Kanta Mahapatra, Jeraldine Viji and Bhuyan Kanhu Charan “Sinusoidal Extraction Control Strategy based Shunt Active Power Line Conditioners for Enhancing Power Quality” *Journal of Electrical and Electronics Engineering*, Vol.4, No.2, pp.83-88, Oct-2011; ISSN 1844-6035.
5. **Karuppanan P**, Rajasekar S and Kamala Kanta Mahapatra “Cascaded Multilevel Voltage Source Inverter based active power filter for Harmonics and Reactive power compensation” *International Journal of Applied Engineering Research*, Vol. 1, No 4, pp.661-674, June-2011; ISSN 09764259.
6. **Karuppanan P** and Kamala Kanta Mahapatra “PI with Fuzzy Logic Controller based Active Power Line Conditioners” *Asian Power Electronics Journal*, Vol.5, No.1, pp.13-18, Aug-2011.
7. **Karuppanan P** and Kamala Kanta Mahapatra “PLL Synchronization with PID Controller Based Shunt Active Power Line Conditioners” *International Journal of Computer and Electrical Engineering*, Vol.3, No.1, pp.42-47, Feb-2011; ISSN: 1793-8163; DOI: [10.7763/IJCEE.2011.V3.290](https://doi.org/10.7763/IJCEE.2011.V3.290)
8. **PitchaiVijaya Karuppanan**, Mahapatra Kamala Kanta “A Novel PLL with Fuzzy Logic Controller based Shunt Active Power Line Conditioners” *Journal of Electrical and Electronics Engineering*, Romania Vol.3, No.2, pp. 153-158.Oct-2010; ISSN:1844-6035

9. **Karuppanan P**, Sushant Kumar Pattnaik and Kamala Kanta Mahapatra “Fuzzy Logic Controller based Active Power Line Conditioners for Compensating Reactive Power and Harmonics” *ICTACT-Journal on Soft Computing*, Vol.1, No.1 pp.49-53 July-2010; ISSN 2229-6956, doi: [10.21917/ijsc.2010.0008](https://doi.org/10.21917/ijsc.2010.0008)
10. **Karuppanan P** and Kamala Kanta Mahapatra “PI, PID and Fuzzy logic controller for Reactive Power and Harmonic Compensation" *ACEEE Int. J. on Electrical and Power Engineering*, Vol. 01, No. 03, Dec 2010

### **International Conference**

1. Manmath Suryavanshi, **P Karuppanan**, Abhay K Gautam, Sreeteja Reddy Kotha, Ankit Mishra “Implementation and Parametric Analysis of Memristor Models – Comparative Study” *IEEE International Conference on Nascent Technologies in Engineering (ICNTE 2021)*, doi: [10.1109/ICNTE51185.2021.9487680](https://doi.org/10.1109/ICNTE51185.2021.9487680)
2. Sreeteja Reddy Kotha, **Karuppanan P**, Abhay K Gautam and Manamath Suryavanshi, "Study and Analysis of GEIF and TIF Subthreshold Voltage Bulk-driven OTAs," *IEEE International Conference on Advances in Electrical, Computing, Communication and Sustainable Technologies (ICAECT)*, 2021, doi: [10.1109/ICAECT49130.2021.9392596](https://doi.org/10.1109/ICAECT49130.2021.9392596).
3. K. Gautam, **K. Paruppanan**, S. K. Reddy and M. Suryavanshi, "Comparative Performance analysis of XOR-XNOR cell used in Hybrid Logic based Full adder," *IEEE International Conference on Advances in Electrical, Computing, Communication and Sustainable Technologies (ICAECT)*, 2021, doi: [10.1109/ICAECT49130.2021.9392544](https://doi.org/10.1109/ICAECT49130.2021.9392544).
4. Ankit Mishra, Sushil C and **P. Karuppanan** ‘PV based Shunt Active Harmonic Filter for Power Quality improvement’ *IEEE International Conference on Computing, Communication, and Intelligent Systems (ICCCIS) 2021*, doi: [10.1109/ICCCIS51004.2021.9397214](https://doi.org/10.1109/ICCCIS51004.2021.9397214)
5. Ritesh Kumar Kushwaha, **P. Karuppanan**, Nand Kishore, “Investigation GNR based Metamaterial Antenna for single and double band THz Applications”, 3rd International Conference on Advances in VLSI, Communication, and Signal, Processing (VCAS 2020), October 9-11, 2020, MNNIT Allahabad.
6. **P. Karuppanan** and B. Chitti Babu ‘Design and Implementation of Current Harmonic Filter’ *IEEE International Conf. on Energy, Systems and Information Processing (ICESIP)-2019*
7. Pawar Dhiraj Kumar, Ritesh Kumar Kushwaha, **P Karuppanan**, “Design and Analysis of Low Power SRAM” 2<sup>nd</sup> International Conference on Advances in VLSI, Communication, and Signal Processing (VCAS 2019), October 20-22, MNNIT Allahabad.
8. Lopamudra Samal, **P. Karuppanan**, Prem Kumar and Sauvagya Ranjan Sahoo ‘Study and analysis of Low Power Dynamic Comparator for IOT Application’ *IEEE Bombay Section Signature Conference (IBSSC)-2019*
9. **Ritesh Kumar Kushwaha**, Prem Kumar and P. Karuppanan, “Study and analysis of Low Power Dynamic Comparator”, 1st International Conference on Advances in VLSI, Communication, and Signal Processing (VCAS 2018), November 29, 2018 to December-01, 2018, MNNIT Allahabad.
10. Abhishek A, Dinesh C, Rajasekar S, A K Singh, **P. Karuppanan**, Ajay-D-Vimal Raj ‘An Improved PSO Approach for Optimal Tuning of PI Controller for Shunt Active Power Filter using FPGA with Hardware Co-Simulation’, *IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES)-2016*;
11. Apoorv Y, Abhishek A, V. Karthikeyan, A K Singh, V Das, **P. Karuppanan** ‘Small Signal Modeling and Stability Analysis of NPhase Interleaved Boost Converter’ *IEEE International Conference on Electrical, Computer and Electronics Engineering (UPCON)-2016*; doi: [10.1109/UPCON.2016.7894720](https://doi.org/10.1109/UPCON.2016.7894720)

12. **Karuppanan P**, Kamala Kanta Mahapatra, Jeyaraman.K and Jeraldine Viji ‘Fryze Power Theory with Adaptive-HCC based Active Power Line Conditioners’, *IEEE International Conference on Power and Energy Systems (ICPS)*,2011;
13. **Karuppanan P**, Rajesh Kumar Patjoshi, Kamalakanta Mahapatra and Ajay-D-Vimalraj ‘Sinusoidal Extraction Controller based on Cascaded VSI for Active Power Filter’ *IEEE-INDICON-2011*; doi: [10.1109/INDCON.2011.6139524](https://doi.org/10.1109/INDCON.2011.6139524).
14. **Karuppanan P**, Smrtuti Ranjan Prusty and Kamala Kanta Mahapatra ‘Adaptive-Hysteresis Current Controller based Active Power Filter for Power Quality Enhancement’ *IET International Conference on Sustainable Energy and Intelligent System(SEISCON) -2011*; ISBN: 978-9-38043-000-3, doi: [10.1049/cp.2011.0325](https://doi.org/10.1049/cp.2011.0325).
15. **Karuppanan P**, Saswat Kumar Ram and Kamala Kanta Mahapatra ‘Three level hysteresis current controller based active power filter for harmonic compensation’ *IEEE Emerging Trends in Electrical and Computer Technology (ICETECT)*, pp.407-412, 2011; doi: [10.1109/ICETECT.2011.5760151](https://doi.org/10.1109/ICETECT.2011.5760151).
16. **Karuppanan P** and Kamala kanta Mahapatra ‘PLL with Fuzzy Logic Controller based Shunt Active Power Filter for Harmonic and Reactive power Compensation’ *IEEE India International Conference on Power Electronics (IICPE)- 2011*;
17. **Karuppanan P** and Kamala kanta Mahapatra ‘Cascaded Multilevel Inverter based Active Filter for Power Line Conditioners using Instantaneous Real-Power Theory’ *IEEE India International Conference on Power Electronics (IICPE)- 2011*; doi: [10.1109/IICPE.2011.5768167](https://doi.org/10.1109/IICPE.2011.5768167)
18. **Karuppanan P** and Kamala kanta Mahapatra ‘PLL with PI, PID and Fuzzy Logic Controllers based Shunt Active Power Line Conditioners’ *IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES) – 2010*;
19. **Karuppanan P** and Kamala kanta Mahapatra ‘A Novel SRF Based Cascaded Multilevel Active Filter for Power Line Conditioners’ *IEEE-INDICON 2010*;
20. **Karuppanan P** and Kamala Kanta Mahapatra ‘Shunt Active Power Line Conditioners for Compensating Harmonics and Reactive Power’ *IEEE International Conference on Environment and Electrical Engineering (EEEIC)-Poland*, pp.277-280, 2010;
21. **Karuppanan P** and Kamala Kanta Mahapatra ‘FPGA based Cascaded Multilevel Pulse Width Modulation for Single Phase Inverter’ *IEEE International Conference on Environment and Electrical Engineering (EEEIC)-Poland*, pp.273-276, 2010; DOI: [10.1109/EEEIC.2010.5489988](https://doi.org/10.1109/EEEIC.2010.5489988) (presented by remote session mode)
22. **Karuppanan P** and Kamala Kanta Mahapatra ‘A Novel Control Strategy based Shunt APLC for Power Quality Improvements’ *IEEE International Conference on Power, Control and Embedded Systems (ICPCES) – 2010*;
23. **Karuppanan P**, Rajasekar S and Kamala Kanta Mahapatra ‘Five-Level Cascaded Active Filter for Power Line Conditioners’ *IEEE International Conference on Power, Control and Embedded Systems (ICPCES) – 2010*; DOI: [10.1109/ICPCES.2010.5698612](https://doi.org/10.1109/ICPCES.2010.5698612).

### National Conference

1. **Karuppanan P**, Kamala kanta Mahapatra, Kanhu Charan Bhuyan and Rajesh Kumar Patjoshi ‘Cascaded Voltage Source Inverter based Active Power Line Conditioners’ *National Systems Conference (NSC) 2011*
2. **Karuppanan P** and Kamala Kanta Mahapatra ‘A Control Strategy for Shunt Active Power Line Conditioners’ *National Conference on Power Electronics (NPEC)-2010*.
3. **Karuppanan P** and Kamala Kanta Mahapatra ‘PID with PLL Synchronization Controlled Shunt APLC under Non-Sinusoidal and Unbalanced Conditions’ *National Conference on Power Electronics (NPEC)-2010*.