

Name of Faculty Dr. THANIKANTI SUDHAKAR BABU  
 Designation Associate Professor  
 Nature of Job/Appointment Regular  
 Date of Joining 27 - 01-2021  
 E-mail Sudhakarbabu\_eee@cbit.ac.in



Education Qualifications	Name of the Degree	Class
Ph. D	Doctor of Philosophy (Electrical)	Awarded
PG	M. Tech. (PED)	Distinction
UG	EEE.	First

#### Work Experience

Teaching	5.5Years (Includes research experience)
Research	4.5 Years
Industry	2 Years--
Others	--
Area of Specialization	Power Electronics, Renewable Energy Resources
Professional Memberships	<ul style="list-style-type: none"> <li>Senior Member, IEEE (Membership No: 94012203)</li> <li>Member IET; (Membership No: 1100478761)</li> <li>Member of IEEE power Electronics Society, Membership number: 94012203</li> <li>Member of The institute of research engineers and doctors (theIRED), Membership number: SM10100052558</li> <li>Member of International Association of Engineers (IAENG), Membership number: 159698</li> </ul>

Responsibilities held at Institution Level --

Responsibilities held at Department Level --

Research Guidance Ph.D. Pursuing: 0

#### Awards Received

- Received Vice-Chancellors Research Excellence Award 2023 from the Osmania University on 03 Jan 2023 at Osmania University, Hyderabad.
- Received best research article in the 1<sup>st</sup> International Conference on 'Advances in Power, Signal and Information Technology (APSIT) 2021' organized Siksha 'O' Anusandhan (Deemed to be University), Bhubaneswar, India during 08th - 10th October, 2021
- Listed among the top 2% of researchers in the world - electrical & electronics engineering, power, and energy areas, Information provided by Elsevier BV, Stanford University.
- Received GOLD award for the poster presentation on Implementation and design of an autonomous residential DC nano grid at the UNITEN POSTDOC HANGOUT DAY 2019, 30th Sept 2019, Universiti Tenaga Nasional, Malaysia.
- Received award "Young faculty in Engineering 2018" towards exceptional academic records, initiatives and developments in the field of Electrical Engineering by Venus International Foundation, India.
- Received a best research paper award for the article title "Charge controller techniques for solar PV system" in 1st International Conference on Power Engineering, Computing and Control, PECCON-2017, 2-4 March 2017, VIT University, Chennai Campus
- Received research award consecutively for the years 2014, 2015, 2016 contribution towards research publications by VIT University.
- Selected as best associate of project for the month of May 2013 in cognizant technology solutions
- Awarded certificated of appreciation for outstanding contribution

towards Hyderabad Innovator Fair organized by CTS national wide, October 2012

10. Received best paper award in a national level technical contest (SVITS QUEST 2008) for presenting paper titled "Fuzzy based economic load" organized by Sri Visveswaraya institute of technology and science in the year of 2008.
11. Received bestpaper award in a national level student seminar (INNOVITS 2K8) for presenting paper titled "Fuzzy based economic load dispatch of thermal power plant" organized by Vagdevi institute of technology and science, Andhra Pradesh.
12. Received 2<sup>nd</sup> prize for paper presentation in the national level technical symposium (Technosance 08) organized by Osmania University, Hyderabad.

Courses Handled at Under Graduate / Post Graduate Level.

Electric Circuits-I, Electric Circuits-II, Basic Electrical Engineering, Fundamentals of Electrical Engineering, Electrical Circuits-Lab, Renewable Energy Resources, Advanced Power semiconductor devices, Power Electronics.

No. of Papers Published

National Journals – 00

International Journals – 115(SCI Indexed – 105; Scopus Indexed 10)

National Conference – 01

International Conference – 31

Projects Carried out

1. Received **INTERNATIONAL RESEARCH FUND (INTERES) 2022 by UNIVERSITI MALAYSIA PERLIS (UniMAP)** Malaysia for the project title "IoT based smart power quality analyzer" duration of 2 years worth of **7 Lakhs (8659 USD)**.
2. Received funding for the consultancy project titled "**Enhancement of the performance of different renewable energy sources using modern techniques**" worth of **20 Lakhs** for the duration of 2 years from Najran University, Saudi Arabia.
3. Executive Member of FIST program 2016, sanctioned fund of **Rs. 115.0 Lakh (215580 USD)** by Department of Science and Technology, Reference number: SR/FST/ETI-420/2016.

Patents

Filed a patent under IP Australia, titled "A Process For Reducing Execution Time For Compression Techniques", Patent number: 2021100433, on 31 March 2021.

Technology Transfer

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Invited Speaker

1. Delievered a Keynote Lecture in 2<sup>nd</sup> International Conference on Innovation in Electrical Power Engineering, Communication and Computing Technology " (from 24-09-2021 to 25-09-2021) organising by Siksha 'O' Anusnadhan (Deemed to be University), Bhubaneswar, Odisha, India. -4
2. Acted as a speaker for International Faculty Development programme on the title "Research Innovations and Emerging Advances in Electrical Engineering" organized by SRM Easwari Engineering College, Ramapuram, Chennai-600089 from 14.06.2021 to 19.06.2021.
3. Delivered a guest lecture (Two sessions) in one week AICTE sponsersed short term training program (STTP) on "Simulation tools for Electrical Engineering and it's real time applications" organized by KallamHarinath Reddy Institute of Technology, Guntur, Andhra Pradesh, India on 02-07-2021
4. Delivered key note address during one week faculty development program at P V P Siddhartha Institute of Technology, Vijayawada on 07th to 12th December 2020.
5. Acted as a speaker for the AICTE Sponsored One Week Short Term Training Program organized by SVCE, Tirupathion October 2020.
6. Delivered a keynote speech during International Webinar organized by SRM Eswari Engineering College on September 2020.
7. Delivered a guest lecture as speaker for the one day National Workshop "Power Circuit Design Using PSIM Software- Hands on Training" organized by School of Electrical Engineering, VIT University, Vellore on 07 October 2017.

No. of Books/Chapter Published with details

**Thanikanti Sudhakar Babu**, Rajasekar Natarajan, "Modeling, analysis development of maximum power extraction techniques" LAP Lambert publications, 2017.

#### **WS/ Seminars/ Conferences/ STTPS/ FDPs Organized**

1. Organized an International webinar on EMI/EMC in Power Converters under IEEE PES student Branch of CBIT on 15 May 2021.
2. Organized a online seminar on " Advanced Power Converters for future Power Grids" under IEEE PES student Branch of CBIT on 10th March 2021.
3. Organized one day value added program on "Silicon carbide devices for high power applications" by V.Chandrasekar, Scientist E, Joint director power electronics division, CDAC Trivendrum on 28 October 2017.
4. Organized a one day national level workshop titled "Programming FPGA controller for solar PV applications based LabVIEW" in collaboration with Innovative invader technologies , National Instruments, Bangalore at VIT University, Vellore on 27 October 2017.
5. Contributed as faculty organizer in the International conference on "Translational Medical and Imaging, ICTMI-2017" organized by School of Electrical Engineering, VIT University during 29 – 30 August 2017.
6. Contributed as faculty organizer in the International conference on " Innovations in Power and Advanced Computing Technologies (i-PACT)" organized by School of Electrical Engineering, VIT University during 21 – 22 April 2017.
7. Contributed as organizing committee member in conducting the "National level science contest for children" held at VIT University, Vellore on 21-22 January, 2017.

Details of Short-Term Training Programs/Faculty Development Programs/Seminars/Workshops/Other Trainings (Attended and/or Organized).

#### **WS/ Seminars/ Conferences/ STTPS/ FDPs Attended**

1. Attended one day value added program on "Smart wide area monitoring protection using communication control" held on 25 March 2017 at VIT University, Vellore.
2. Participated in Three Day National Workshop with Hands on session in "Signal and Image Processing: Practice to Research" organized by School of Electrical Engineering, VIT University, Vellore, during 23 – 25, February 2017.
3. Attended Industrial Automated Training in Drive, Motion, Control and Robotics organized by Delta Electronics India from 03 February 2017 to 07 February 2017 at New Delhi.

Details of Journal Publications/ Conferences (National and International)

#### **International Journals form the year 2017**

##### **2023**

- [1]. Gupta, Suraj, Pabitra Kumar Biswas, BelqasemAljafari, Sudhakar Babu Thanikanti, and Sajal K. Das. "Modelling, simulation and performance comparison of different membership functions based fuzzy logic control for an active magnetic bearing system." The Journal of Engineering 2023, no. 2 (2023): e12229.
- [2]. Fathy, Ahmed, Dalia Yousri, Thanikanti Sudhakar Babu, and HegazyRezk. "Triple X Sudoku reconfiguration for alleviating shading effect on total-cross-tied PV array." Renewable Energy (2023).
- [3]. Thanikanti, Sudhakar Babu, Praveen Kumar, S. Devakirubakaran, BelqasemAljafari, and IlhamiColak. "A dynamic mismatch loss mitigation algorithm with dual input dual output converter for solar PV systems." Solar Energy Materials and Solar Cells 251 (2023): 112163.
- [4]. BelqasemAljafari, PandiaRajan Jeyaraj, Aravind Chellachikathiresan, Sudhakar Babu Thanikanti "Electric vehicle optimum charging-discharging scheduling with dynamic pricing employing multi agent deep neural network: Computers and Electrical Engineering 105 (2023) 108555

##### **2022**

- [5]. Pamshetti, Vijay Babu, Shailendra Singh, A. K. Thakur, S. P. Singh, T. Sudhakar Babu, Nishant Patnaik, and G. Hari Krishna. "Cooperative Operational Planning Model for Distributed Energy Resources with Soft Open Point in Active Distribution Network." IEEE Transactions on Industry Applications (2022).
- [6]. Saiprakash, Chidurala, Alivarani Mohapatra, Byamakesh Nayak, Thanikanti Sudhakar Babu, and Hassan HaesAlhelou. "A Novel Benzene Structured Array Configuration for Harnessing Maximum Power from PV Array under Partial Shading Condition with Reduced Number of Cross Ties." IEEE Access (2022).
- [7]. Babu, N. V., P. Suresh Babu, Saptarshi Roy, T. Sudhakar Babu, and Anil Bharadwaj. "A Synchrophasor-Based

- Line Protection for Single Phase-Ground Faults." *Journal of Electrical Engineering & Technology* (2022): 1-12.
- [8]. Naik, Kanasottu Anil, Rayappa David Amar Raj, ChepuriVenkateswara Rao, and Thanikanti Sudhakar Babu. "Generalized cryptographic image processing approaches using integer-series transformation for solar power optimization under partial shading." *Energy Conversion and Management* 272 (2022): 116376.
  - [9]. Aljafari, Belqasem, Siva Rama Krishna Madeti, Priya Ranjan Satpathy, Sudhakar Babu Thanikanti, and Bamidele Victor Ayodele. "Automatic Monitoring System for Online Module-Level Fault Detection in Grid-Tied Photovoltaic Plants." *Energies* 15, no. 20 (2022): 7789.
  - [10]. Aljafari, Belqasem, Priya Ranjan Satpathy, Siva Rama Krishna Madeti, Pradeep Vishnuram, and Sudhakar Babu Thanikanti. "Reliability Enhancement of Photovoltaic Systems under Partial Shading through a Two-Step Module Placement Approach." *Energies* 15, no. 20 (2022): 7766.
  - [11]. Yousri, Dalia, Ehab F. El-Saadany, Yomna Shaker, Thanikanti Sudhakar Babu, Ahmed F. Zobaa, and Dalia Allam. "Mitigating mismatch power loss of series-parallel and total-cross-tied array configurations using novel enhanced heterogeneous hunger games search optimizer." *Energy Reports* 8 (2022): 9805-9827. **SCIE**
  - [12]. Yousri, Dalia, Ahmed Ousama, Ahmed Fathy, Thanikanti Sudhakar Babu, and Dalia Allam. "Managing the exchange of energy between microgrid elements based on multi-objective enhanced marine predators algorithm." *Alexandria Engineering Journal* 61, no. 11 (2022): 8487-8505. **SCIE**
  - [13]. Aljafari, Belqasem, Priya Ranjan Satpathy, and Sudhakar Babu Thanikanti. "Partial shading mitigation in PV arrays through dragonfly algorithm based dynamic reconfiguration." *Energy* 257 (2022): 124795. **SCI**
  - [14]. Aljafari, Belqasem, Devakirubakaran Samithas, Praveen Kumar Balachandran, Sambandan Anandan, and Thanikanti Sudhakar Babu. "Performance Analysis of PLA Material Based Micro-Turbines for Low Wind Speed Applications." *Polymers* 14, no. 19 (2022): 4180. **SCIE**
  - [15]. Kathiresan, Aravind Chellachi, Pandia Rajan Jeyaraj, Brindhu Kumari Albert, Sudhakar Babu Thanikanti, Manoj Kumar Nallapaneni, and Hassan Haes Alhelou. "A versatile control of solar DVR for enhanced utilization and power quality improvement in a series-connected wind-solar farm." *IET Renewable Power Generation* (2022). **SCIE**
  - [16]. Verma, Monika, Mini Sreejeth, Madhusudan Singh, Thanikanti Sudhakar Babu, and Hassan Haes Alhelou. "Chaotic Mapping Based Advanced Aquila Optimizer With Single Stage Evolutionary Algorithm." *IEEE Access* 10 (2022): 89153-89169. **SCIE**
  - [17]. Vishnuram, Pradeep, Sudhanshu Kumar, Vivek Kumar Singh, Thanikanti Sudhakar Babu, Ramani Kannan, and Khairul Nisak Bt Md Hasan. "Phase Shift-Controlled Dual-Frequency Multi-Load Converter with Independent Power Control for Induction Cooking Applications." *Sustainability* 14, no. 16 (2022): 10278. **SCIE**
  - [18]. Ram, G. Dinesh, S. Praveen Kumar, T. Yuvaraj, Thanikanti Sudhakar Babu, and Karthik Balasubramanian. "Simulation and investigation of MEMS bilayer solar energy harvester for smart wireless sensor applications." *Sustainable Energy Technologies and Assessments* 52 (2022): 102102. **SCIE**
  - [19]. Uthra, R., D. Suchitra, Thanikanti Sudhakar Babu, and Belqasem Aljafari. "Fuzzy-Based EV Charging Station and DVR-Fed Voltage Compensation for a DFIG-Fed Wind Energy System during Grid Faults." *International Transactions on Electrical Energy Systems* 2022 (2022). **SCIE**
  - [20]. Suresh, Hassan Nagesha Rao, Siddaiah Rajanna, Sudhakar Babu Thanikanti, and Hassan Haes Alhelou. "Hybrid interconnection schemes for output power enhancement of solar photovoltaic array under partial shading conditions." *IET Renewable Power Generation* (2022). **SCIE**
  - [21]. Bhowmik, Pritam, Priya Ranjan Satpathy, Sudhakar Babu Thanikanti, and Narendranath Jana. "A novel virtual inertia emulation technique for the single phase electric vehicle charging topology." *Computers and Electrical Engineering* 101 (2022): 108114. **SCIE**
  - [22]. Gupta, Suraj, Pabitra Kumar Biswas, Thanikanti Sudhakar Babu, and Hassan Haes Alhelou. "Hunting Based Optimization Techniques Used in Controlling an Active Magnetic Bearing System." *IEEE Access* 10 (2022): 62702-62721. **SCIE**
  - [23]. Ayodele, Bamidele Victor, Siti Indati Mustapa, Ramesh Kanthasamy, Norsyahida Mohammad, Abdulaziz Alturki, and Thanikanti Sudhakar Babu. "Performance analysis of support vector machine, Gaussian Process Regression, sequential quadratic programming algorithms in modeling hydrogen-rich syngas production from catalyzed co-gasification of biomass wastes from oil palm." *International Journal of Hydrogen Energy* (2022). **SCIE**
  - [24]. Gude, Srihari, Kartick Chandra Jana, Antonino Laudani, and Sudhakar Babu Thanikanti. "Parameter extraction of photovoltaic cell based on a multi-objective approach using nondominated sorting cuckoo search optimization." *Solar Energy* 239 (2022): 359-374. **SCIE**
  - [25]. Satpathy, Priya Ranjan, Belqasem Aljafari, and Sudhakar Babu Thanikanti. "Power losses mitigation through electrical reconfiguration in partial shading prone solar PV arrays." *Optik* 259 (2022): 168973. **SCI**
  - [26]. Fathy, Ahmed, Thanikanti Sudhakar Babu, Mohammad Ali Abdelkareem, Hegazy Rezk, and Dalia Yousri. "Recent approach based heterogeneous comprehensive learning Archimedes optimization algorithm for identifying the optimal parameters of different fuel cells." *Energy* 248 (2022): 123587. **SCI**
  - [27]. Gopinath, G. R., S. Muthuvel, M. Muthukannan, R. Sudhakarapandian, B. Praveen Kumar, Ch Santhan Kumar, and Sudhakar Babu Thanikanti. "Design, development, and performance testing of thermal energy storage based solar dryer system for seeded grapes." *Sustainable Energy Technologies and Assessments* 51 (2022): 101923. **SCIE**
  - [28]. Pongiannan, R. K., Murugaperumal Krishnamoorthy, Suresh Srinivasan, M. Chandrasekaran, C. Bharatiraja, Praveen Kumar, Santhan Kumar Cherukuri, Thanikanti Sudhakar Babu, and Hassan Haes Alhelou. "Cost-Effective Energy Conservation Techniques for Textile Spinning Mills." *IEEE Access* 10 (2022): 49839-49852. **SCIE**
  - [29]. Satpathy, Priya Ranjan, Pritam Bhowmik, Thanikanti Sudhakar Babu, Chiranjit Sain, Renu Sharma, and Hassan Haes Alhelou. "Performance and Reliability Improvement of Partially Shaded PV Arrays by One-Time Electrical Reconfiguration." *IEEE Access* 10 (2022): 46911-46935. **SCIE**
  - [30]. Nayak, Smrutiranjana, Sanjeeb Kumar Kar, Subhransu Sekhar Dash, Pradeep Vishnuram, Sudhakar Babu

- Thanikanti, and Benedetto Nastasi. "Enhanced Salp Swarm Algorithm for Multimodal Optimization and Fuzzy Based Grid Frequency Controller Design." *Energies* 15, no. 9 (2022): 3210. **SCIE**
- [31]. Siddique, MarifDaula, Mohammed Aslam Husain, Mohammad Wasiq, Thanikanti Sudhakar Babu, and Saad Mekhilef. "A new seven-level ANPC inverter structure with semiconductor device reduction." *International Journal of Circuit Theory and Applications* (2022). **SCI**
- [32]. Titus, Femin, Sudhakar Babu Thanikanti, Sanchari Deb, and Nallapaneni Manoj Kumar. "Charge Scheduling Optimization of Plug-In Electric Vehicle in a PV Powered Grid-Connected Charging Station Based on Day-Ahead Solar Energy Forecasting in Australia." *Sustainability* 14, no. 6 (2022): 3498. **SCIE**
- [33]. Patel, Aadyasha, O. V. Swathika, Umashankar Subramaniam, T. Sudhakar Babu, Alok Tripathi, Samridha Nag, Alagar Karthick, and M. Muhibbullah. "A practical approach for predicting power in a small-scale off-grid photovoltaic system using machine learning algorithms." *International Journal of Photoenergy* 2022 (2022). **SCIE**
- [34]. Dhananjaya, Mudadla, Devendra Ponuru, Thanikanti Sudhakar Babu, BelqasemAljafari, and Hassan HaesAlhelou. "A New Multi-Output DC-DC Converter for Electric Vehicle Application." *IEEE Access* 10 (2022): 19072-19082. **SCIE**
- [35]. Pachauri, Rupendra Kumar, Sudhakar Babu Thanikanti, Jianbo Bai, Vinod Kumar Yadav, BelqasemAljafari, Santosh Ghosh, and Hassan HaesAlhelou. "Ancient Chinese magic square-based PV array reconfiguration methodology to reduce power loss under partial shading conditions." *Energy Conversion and Management* 253 (2022): 115148. **SCIE**
- [36]. Cherukuri, Santhan Kumar, B. Praveen Kumar, Kalyan Raj Kaniganti, S. Muthubalaji, Ghanta Devadasu, Thanikanti Sudhakar Babu, and Hassan HaesAlhelou. "A Novel Array Configuration Technique for Improving the Power Output of the Partial Shaded Photovoltaic System." *IEEE Access* 10 (2022): 15056-15067. **SCIE**
- [37]. Fathy, Ahmed, Dalia Yousri, HegazyRezk, Sudhakar Babu Thanikanti, and Hany M. Hasanien. "A Robust Fractional-Order PID Controller Based Load Frequency Control Using Modified Hunger Games Search Optimizer." *Energies* 15, no. 1 (2022): 361. **SCIE**
- [38]. Changmai, Papul, Sunil Deka, Shashank Kumar, Thanikanti Sudhakar Babu, BelqasemAljafari, and Benedetto Nastasi. "A Critical Review on the Estimation Techniques of the Solar PV Cell's Unknown Parameters." *Energies* 15, no. 19 (2022): 7212. **SCIE**
- [39]. Aljafari, Belqasem, EydhahAlmatrafi, Sudhakar Babu Thanikanti, Sara A. Ibrahim, Mohamed A. Enany, and Marwa M. Ahmed. "Evaluation of On-Line MPPT Algorithms for PV-Based Battery Storage Systems." *CMC-COMPUTERS MATERIALS & CONTINUA* 73, no. 2 (2022): 3595-3611. **SCIE**
- [40]. Sain, Chiranjit, Atanu Banerjee, Pabitra Kumar Biswas, Ahmad Taher Azar, and Thanikanti Sudhakar Babu. "Design and optimisation of a fuzzy-PI controlled modified inverter-based PMSM drive employed in a light weight electric vehicle." *International Journal of Automation and Control* 16, no. 3-4 (2022): 459-488.
- [41]. Titus, Femin, Sudhakar Babu Thanikanti, Sanchari Deb, and Nallapaneni Manoj Kumar. "Charge Scheduling Optimization of Plug-In Electric Vehicle in a PV Powered Grid-Connected Charging Station Based on Day-Ahead Solar Energy Forecasting in Australia." *Sustainability* 14, no. 6 (2022): 3498. **SCIE**

## 2021

- [42]. Khan, Saniya, Khaliqur Rahman, Mohd Tariq, Salman Hameed, BasemAlamri, and Thanikanti Sudhakar Babu. "Solid-State Transformers: Fundamentals, Topologies, Applications, and Future Challenges." *Sustainability* 14, no. 1 (2021): 319. **SCIE**
- [43]. Kumar, B. Praveen, Santhan Kumar Cherukuri, Kalyan Raj Kaniganti, N. Karupiah, RathinamMuniraj, Thanikanti Sudhakar Babu, and Hassan HaesAlhelou. "Performance Enhancement of Partial Shaded Photovoltaic System With the Novel Screw Pattern Array Configuration Scheme." *IEEE Access* 10 (2021): 1731-1744. **SCIE**
- [44]. Sain, Chiranjit, Atanu Banerjee, Pabitra Kumar Biswas, Sudhakar Babu Thanikanti, and Chitti Babu Baladhanautham. "Sensor angle-based control strategy and dynamic analysis of a sinusoidal pulse width modulation-operated permanent magnet synchronous machine drive for electric propulsion unit." *International Transactions on Electrical Energy Systems* 31, no. 12 (2021): e13090. **SCIE**
- [45]. Shitharth, S., KantipudiMv Prasad, K. Sangeetha, Pravin R. Kshirsagar, Thanikanti Sudhakar Babu, and Hassan HaesAlhelou. "An Enriched RPCO-BCNN Mechanisms for Attack Detection and Classification in SCADA Systems." *IEEE Access* 9 (2021): 156297-156312. **SCIE**
- [46]. Al-Ogaili, Ali Saadon, Ali Q. Al-Shetwi, Hussein MK Al-Masri, Thanikanti Sudhakar Babu, Yap Hoon, Khaled Alzaareer, and NV Phanendra Babu. "Review of the Estimation Methods of Energy Consumption for Battery Electric Buses." *Energies* 14, no. 22 (2021): 7578. **SCIE**
- [47]. Rezk, Hegazy, Thanikanti Sudhakar Babu, Mujahed Al-Dhaifallah, and Hamdy A. Ziedan. "A robust parameter estimation approach based on stochastic fractal search optimization algorithm applied to solar PV parameters." *Energy Reports* 7 (2021): 620-640. **SCIE**
- [48]. Al-Ogaili, Ali Saadon, Ali Q. Al-Shetwi, Thanikanti Sudhakar Babu, Yap Hoon, Majid A. Abdullah, Ameer Alhasan, and Ammar Al-Sharaa. "Electric buses in malaysia: Policies, innovations, technologies and life cycle evaluations." *Sustainability* 13, no. 21 (2021): 11577. **SCIE**
- [49]. Vishnuram, Pradeep, GunabalanRamachandiran, Thanikanti Sudhakar Babu, and Benedetto Nastasi. "Induction Heating in Domestic Cooking and Industrial Melting Applications: A Systematic Review on Modelling, Converter Topologies and Control Schemes." *Energies* 14, no. 20 (2021): 6634. **SCIE**
- [50]. Yousri, Dalia, Ahmed Fathy, Thanikanti Sudhakar Babu, and Mohamed R. Berber. "Estimating the optimal parameters of solid oxide fuel cell-based circuit using parasitism-predation algorithm." *International Journal of Energy Research* 45, no. 12 (2021): 18018-18032. **SCIE**
- [51]. Satpathy, Priya Ranjan, Thanikanti Sudhakar Babu, Sathish Kumar Shanmugam, Lakshman Naik Popavath, and Hassan HaesAlhelou. "Impact of uneven shading by neighboring buildings and clouds on the conventional

- and hybrid configurations of roof-top PV arrays." IEEE Access 9 (2021): 139059-139073. **SCIE**
- [52]. David, Prince Winston, Karthikeyan Ganesan, Palpandian Murugesan, Pravin Murugesan, Ganesan Jeyakodi, Praveen Kumar Balachandran, Santhan Kumar Cherukuri, Thanikanti Sudhakar Babu, and Hassan HaesAlhelou. "A New Alternate Method to Reuse Rehashed Edible Oil for the Betterment of Society-Dual Benefit Approach in Photovoltaic Modules." IEEE Access 9 (2021): 128434-128441. **SCIE**
- [53]. Yousri, Dalia, Ahmed Fathy, HegazyRezk, Thanikanti Sudhakar Babu, and Mohamed R. Berber. "A reliable approach for modeling the photovoltaic system under partial shading conditions using three diode model and hybrid marine predators-slime mould algorithm." Energy Conversion and Management 243 (2021): 114269. **SCIE**
- [54]. Cherukuri, Santhan Kumar, Praveen Kumar Balachandran, Kalyan Raj Kaniganti, Madhu Kiran Buddi, DasuButti, S. Devakirubakaran, Thanikanti Sudhakar Babu, and Hassan HaesAlhelou. "Power enhancement in partial shaded photovoltaic system using spiral pattern array configuration scheme." IEEE Access 9 (2021): 123103-123116. **SCIE**
- [55]. Nazer, Mohammad Nor Rafiq, AbdulfattahNoorwali, Mohammad FaridunNaim Tajuddin, Mohammad Zubair Khan, Mohamad Afiq Izzat Ahmad Tazally, Jubaer Ahmed, Thanikanti Sudhakar Babu, Nur Hafizah Ghazali, Chinmay Chakraborty, and Nallapaneni Manoj Kumar. "Scenario-based investigation on the effect of partial shading condition patterns for different static solar photovoltaic array configurations." IEEE Access 9 (2021): 116050-116072. **SCIE**
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- [58]. Srinivasan, A., S. Devakirubakaran, B. Meenakshi Sundaram, Praveen Kumar Balachandran, Santhan Kumar Cherukuri, D. Prince Winston, Thanikanti Sudhakar Babu, and Hassan HaesAlhelou. "L-shape propagated array reconfiguration with dynamic reconfiguration algorithm for enhancing energy conversion rate of partial shaded photovoltaic systems." IEEE Access 9 (2021): 97661-97674. **SCIE**
- [59]. Pachauri, Rupendra Kumar, IshaKansal, Thanikanti Sudhakar Babu, and Hassan HaesAlhelou. "Power losses reduction of solar PV systems under partial shading conditions using re-allocation of PV module-fixed electrical connections." IEEE Access 9 (2021): 94789-94812. **SCIE**
- [60]. Tan, Kang Miao, Thanikanti Sudhakar Babu, Vigna K. Ramachandaramurthy, PadmanathanKasinathan, Sunil G. Solanki, and Shangari K. Raveendran. "Empowering smart grid: A comprehensive review of energy storage technology and application with renewable energy integration." Journal of Energy Storage 39 (2021): 102591. **SCIE**
- [61]. Pal, Poushali, A. K. Parvathy, K. R. Devabalaji, S. Joseph Antony, Simon Ocheme, Thanikanti Sudhakar Babu, Hassan HaesAlhelou, and T. Yuvaraj. "IoT-based real time energy management of virtual power plant using PLC for transactive energy framework." IEEE Access 9 (2021): 97643-97660. **SCIE**
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