

## Dr. K. Mahammad Rafi

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- **Assistant Professor (S/S)**
- Qualification: B.Tech (EEE),  
M.Tech (Advanced Power Systems), Ph.D (O.U)
- E-mail: rafi.eee@mjclege.ac.in
- Phone: +91 9030732881

## Experience

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13 Years 7 Months; <https://sites.google.com/view/mahammadrafik/home>

## Publications

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Academic Identity:

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1. Orcid id : <https://orcid.org/0000-0003-3447-1700>
2. Scopus id: 57202982629 : <https://www.scopus.com/authid/detail.uri?authorId=57202982629>
3. Publons id: <https://publons.com/researcher/4238381/mahammad-rafi-k/>
4. Google scholar id: <https://scholar.google.com/citations?user=hUtjiHQAAAAJ&hl=en>
5. Researcher id: <https://www.researchgate.net/profile/Mahammad-Rafi-K>
6. Web of Science Researcher ID: ABH-2394-2020: <https://publons.com/researcher/4238381/mahammad-rafi-k/>

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On 13/05/2021 I completed Programming for Everybody (Getting Started with Python) through coursera! from University of Michigan in association with Jawaharlal Nehru Technological University, Kakinada (JNTUK) View my certificate here:

<https://coursera.org/share/f09a794d8dc093d90e8c1c7f0c0faa33>

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### I. PATENTS:

FILE NO: 201941054824 A

DATE OF FILING: 31/12/2019.

TITLE: METHOD FOR DETECTING OPTIMAL LOCATION AND COORDINATED CONTROL OF DSTATCOM IN A RADIAL DISTRIBUTION NETWORK.

INVENTOR(S):

1. Mr. K. MAHAMMAD RAFI, Assistant Professor in Electrical Engineering Department, Muffakham Jah College of Engineering & Technology, Road No.3, Banjara Hills, Hyderabad- 500034. Telangana State, India.
2. Mr. J. V. R. VITHAL, Associate Professor in Electrical Engineering Department, Muffakham Jah College of Engineering & Technology, Road No.3, Banjara Hills, Hyderabad- 500034. Telangana State, India.
3. Prof. P. V. N. PRASAD, Professor in Electrical Engineering Department & Dean Faculty of Engineering, University College of Engineering, Osmania University, Hyderabad-500007. Telangana State, India.

### II. JOURNALS:

1. K. Mahammad Rafi, P. V. N Prasad and J. V. R. Vithal, "Coordinated control of DSTATCOM with switchable capacitor bank in a secondary radial distribution system for power factor improvement" Journal of Electrical Systems and Information Technology Vol. 9, Issue 4, March 2022.
2. K. Mahammad Rafi and P. V. N Prasad, "A Method for Design of DSTATCOM Fast Acting DC Link Voltage Controller," International Journal of Information Technology and Electrical Engineering (ITEE), vol. 09, issue 05, October 2020, pp. 17-23. ISSN: 2306-708X.
3. K. Mahammad Rafi and P. V. N Prasad, "Design and Development of 30 kVAr DSTATCOM for Reactive Power Compensation in an 800 kW Radial Distribution System," ARPN Journal of Engineering and Applied Sciences, vol. 15, number 12, June 2020, pp. 1346-1354. ISSN: 1819-6608.
4. K. Mahammad Rafi, J.V.R Vithal and P.V.N Prasad "Method for Detecting Optimal Location and Coordinated Control of DSTATCOM in a Radial Distribution Network," official Journal publication of the Patent office, issue No. 03 January 2020, pp.3054-3054, dated 17/01/2020.

5. K. Mahammad Rafi and P. V. N Prasad "Design and Selection of Power Circuit and Control Parameters for DSTATCOM," International Journal of Recent Technology and Engineering, ISSN: 2277-3878, Volume-8 Issue-4, November 2019.
6. K. Mahammad Rafi and P. V. N Prasad "Comparison of Control Algorithms for Power Factor Correction in a Distribution System using DSTATCOM," Journal of Electrical Systems volume 19, August 2019.
7. K. Mahammad Rafi and P. V. N Prasad "Comparison of Control Algorithms for Power Factor Correction in a Distribution System using DSTATCOM," IEEE Conference on Power, Control, Signal and Instrumentation Engg. (ICPCSI), pp. 1736-1741, Year 2017. DOI: 10.1109/ICPCSI.2017.8392011
8. K. Mahammad Rafi and P. V. N. Prasad "Performance Analysis of three phase self-excited Induction Generator using DSTATCOM," IUP Journal of Electrical Engineering, Science and Technology Vol. 10, No. 4, 2017, pp. 53-67. Available at SSRN: <https://ssrn.com/abstract=3220376>
9. K. Mahammad Rafi and P. V. N Prasad "Reactive Power Compensation Of Standalone Self Excited Induction Generator Using DSTATCOM," I-Manager's Journal On Power Systems Engineering (JPS), Vol. 5, No. 2, May-July 2017. <https://doi.org/10.26634/jps.5.2.13623>
10. K. Mahammad Rafi and A. Karthekeya sarma "Optimal Selection Of Capacitors For Radial Distribution Systems Using Plant Growth Simulation Algorithm," International Journal of Advances in Science and Technology, Vol. 30, Issue-5, 2011. pp. 43-54.
11. K. Mahammad Rafi and A. Karthekeya sarma, "Voltage Stability Analysis And Reactive Power Compensation Of Distribution System Using Plant Growth Simulation Algorithm," International Journal Of Advances In Science And Technology, Vol. 2, No. 4, April 2011, ISSN 2229-5216. pp. 72-95.
12. K. Mahammad Rafi and A. Karthekeya sarma, "Radial distribution systems using Artificial Bee Colony (ABC) algorithm," Innovative Systems Design and Engineering, Vol. 2, Issue-4, 2011. pp. 177-185.

### III. CONFERENCES:

1. K. Mahammad Rafi and P. V. N Prasad "Power Quality Improvement Of 3-Phase 4-Wire Distribution System Using DSTATCOM" 2nd International Conference On Advanced Electrical System 2014.
2. K. Mahammad Rafi and P. V. N Prasad "Power Loss Reduction In Radial Distribution Systems By Capacitor Placement Using ABC Algorithm" National Conference On Advanced Electrical System 2013.
3. K. Mahammad Rafi and P. V. N Prasad "Reactive Power Compensation Of Standalone Self Excited Induction Generator Using DSTATCOM," 2nd National Conference On "Recent Trends In Power Systems And Drives" 2016.
4. K. Mahammad Rafi and P. V. N Prasad "Performance Analysis Of Three Phase Self Excited Induction Generator Using DSTATCOM," 2nd National Conference On Recent Advances In Electronics-2017.
5. K. Mahammad Rafi and P. V. N Prasad "Control of Reactive Power In A Standalone Self Excited I.G Using Different DSTATCOM Controls" 1st International Conference On Green Power Technology In Power Grid: Issues, Challenges & Control, Sri Venkateswara University College Of Engineering, Tirupati, Andhra Pradesh-2016.
6. K. Mahammad Rafi and P. V. N Prasad "A Comparative Study and Analysis of Control Algorithms for DSTATCOM" International Conference on Computing Communication and Electrical Technologies (ICCCET-2019), G. Narayanamma Institute of Technology and Science for Women, Hyderabad, Telangana -2019.
7. K. Mahammad Rafi and J. Amarnath, "Power Quality Improvement of 3-Phase 4-Wire Distribution System Using DSTATCOM," 2nd International Conference on Advanced Electrical System, 2014.
8. K. Mahammad Rafi and J. Amarnath, "Power Loss Reduction In Radial Distribution Systems By Capacitor Placement Using ABC Algorithm," National Conference on Advanced Electrical System 2013.

### IV. BEST PAPER AWARDS:

1. K. Mahammad Rafi and P. V. N Prasad "Control Of Reactive Power In A Standalone Self Excited I.G Using Different DSTATCOM Controls" 1st International Conference On Green Power Technology In Power Grid: Issues, Challenges & Control, Sri Venkateswara University College Of Engineering, Tirupati, Andhra Pradesh-2016.
2. K. Mahammad Rafi and P. V. N Prasad "A Comparative Study and Analysis of Control Algorithms for DSTATCOM" International Conference on Computing Communication and Electrical Technologies (ICCCET-2019), G. Narayanamma Institute of Technology and Science for Women, Hyderabad, Telangana -2019.

### V. RESEARCH PROJECTS:

1. R&D MJCET : "Design, Analysis and development of prototype of 30 kVAr DSTATCOM for SUES" , 3 years, Project Cost: Rs.3, 92, 000/- (Yet to complete)
2. R&D MJCET : "Biodiesel Extraction- Phase 5- Automation of Bio diesel Pilot Plant using continuous flow process", 1 Year, Project Cost: Rs. 45,000/- (completed)
3. R&D MJCET : "Power quality improvement using DSTATCOM for an isolated induction generator (3. 5 kW)", 1 Year, Project Cost: Rs. 25,500/- (completed)
4. R&D MJCET : "Real and reactive power control of a 3-Phase self excited induction generator (3.5 kW) using UPFC" , 1 Year, Project Cost: Rs. 28,800/- (completed)

## Area of Expertise

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- 1.ADVANCED POWER SYSTEM.
  - 2.POWER ELECTRONICS APPLICATIONS TO POWER SYSTEM.
  - 3.DSP INTEGRATION WITH MATLAB.
  - 4.REACTIVE POWER CONTROL IN DISTRIBUTION SYSTEM.

## **Research Interest**

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1. REACTIVE POWER CONTROL TECHNIQUES,
2. VOLTAGE STABILITY ANALYSIS IN DISTRIBUTION SYSTEMS.
3. REAL TIME APPLICATIONS TO POWER SYSTEM.
4. ELECTRICAL ENERGY MANAGEMENT.

## **Membership Details:**

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1. Member of The Institute of Research Engineers and Doctors (theIRED)  
Membership number: SNM20210711598
2. Member of International Association of Engineers (MIAENG):  
Membership number: 289900
3. Professional Member Institute for Engineering Research and Publication (PMIFERP)  
ID NO: PMIN31750492