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Design and Model Predictive Control of A Bidirectional Ev Fast Charging Station Operating in A DC Microgrid

CV for Co-Author:

Izviye Fatimanur Tepe



Contact Information:

- **Email:** tepe.fatimanur@gmail.com
- **Corporate mail:** 23833004003@gazi.edu.tr

Education:

- **Bachelor of Science:** Electrical and Electronics Engineering, Gazi University Faculty of Technology, 2018
- **Master of Science:** Electrical and Electronics Engineering, Gazi University, Faculty of Technology, 2023

PhD Studies:

- **PhD studies** at Gazi University, Faculty of Technology, Currently

Research Interests:

- Smart Grids & Microgrids
- Renewable Energy Systems & Distributed Energy Sources
- Power Electronics & Power Systems
- Electric Vehicles
- Meta-heuristic Algorithms & Fuzzy Logic Control
- Optimization

Publications:

- Tepe, I. F., & Irmak, E. (2022). A review of control strategies and metaheuristic algorithms used in DC microgrids. *Int J Renewable Energy Res*, 12, 799-818.
- Tepe, I. F., & Irmak, E. (2022, September). Review and comparative analysis of metaheuristic MPPT algorithms in PV systems under partial shading conditions. In *2022 11th International Conference on Renewable Energy Research and Application (ICRERA)* (pp. 471-479). IEEE.
- Tepe, I. F., & Irmak, E. (2023). An integrated energy control system to provide optimum demand side management of a grid-interactive microgrid. *Electric Power Components and Systems*, 51(6), 619-638.
- Colak, I., Irmak, E., & Tepe, I. F. (2023, November). A Brief Overview and Key Points in Electric Vehicle Charging Systems. In *2023 5th International Conference on Control Systems, Mathematical Modeling, Automation and Energy Efficiency (SUMMA)* (pp. 956-964). IEEE.