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# **Design and Control of Bidirectional Step-Up/Down Partial Power Converters for DC Microgrid Applications**

NASER HASSANPOUR









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**Publication II**

Hassanpour, N., Chub, A., Blinov, A., & Vinnikov, D. (2022, June). Comparison of full power and partial power buck-boost dc-dc converters for residential battery energy storage applications. In 2022 IEEE 16th International Conference on Compatibility, Power Electronics, and Power Engineering (CPE-POWERENG) (pp. 1-6). IEEE, doi: 10.1109/CPE-POWERENG54966.2022.9880862.

**Publication III**

Hassanpour, N., Chub, A., Blinov, A., & Vinnikov, D. (2023). Soft-switching bidirectional step-up/down partial power converter with reduced components stress. *IEEE Transactions on Power Electronics*, 38(11), 14166-14177, doi: 10.1109/TPEL.2023.3289061.

**Publication IV**

Chub, A., Hassanpour, N., Yadav, N., Jalakas, T., Blinov, A., & Vinnikov, D. (2024). Analysis of design requirements and optimization possibilities of partial power converter for photovoltaic string applications in DC microgrids. *IEEE Access*, 12, 14605-14619, doi: 10.1109/ACCESS.2024.3354375.

**Publication V**

Yadav, N., Chub, A., Hassanpour, N., Blinov, A., & Vinnikov, D. (2025). Protection and Control Implementation for Bidirectional Step-Up/Down Partial Power Converter for Droop-Controlled DC Microgrids. *IEEE Transactions on Industry Applications*, doi: 10.1109/TIA.2025.3561767.

**Publication VI**

Hassanpour, N., Chub, A., Yadav, N., Blinov, A., & Vinnikov, D. (2024). High-Efficiency Partial Power Converter for Integration of Second-Life Battery Energy Storage Systems in DC Microgrids. *IEEE Open Journal of the Industrial Electronics Society*, pp. 847-860, 2024, doi: 10.1109/OJIES.2024.3389466.

## Curriculum vitae

### Personal data

Name: Naser Hassanpour  
Date of birth: 08.01.1990  
Place of birth: Tabriz, Iran  
Citizenship: Iranian

### Contact data

E-mail: naser.hassanpour@taltech.ee

### Education

2021–2025 PhD, Tallinn University of Technology, Estonia  
2013–2016 M.Sc, University of Tabriz, Tabriz, Iran  
2008–2012 B.Sc, University of Tabriz, Tabriz, Iran  
2004–2008 High school, Amiral Momenin High School for Elite Students, Tabriz, Iran

### Language competence

Persian Native  
Azerbaijani Native  
English Fluent

### Professional employment

03.02.2025 – Junior Research fellow at Power Electronics Research Group, Department of Electrical Power Engineering and Mechatronics, School of Engineering, Tallinn University of Technology  
01.09.2022–28.02.2023 Engineer at Power Electronics Research Group, Department of Electrical Power Engineering and Mechatronics, School of Engineering, Tallinn University of Technology  
01.05.2016–10.02.2021 R&D Electrical Engineer, Alucast Iran, Tabriz, Iran

### Grants & Projects

**PRG1086** “Future-Proof Power Electronic Systems for Residential Microgrids” (1.01.2021–31.12.2025); Principal Investigator: Dmitri Vinnikov; Financier: Estonian Research Council.

**TK230U2** “Center of Excellence in Energy Efficiency” (01.01.2024–31.12.2030); Principal Investigator: Dmitri Vinnikov; Financier: Ministry of Education and Research.

## Elulookirjeldus

### Isikuandmed

Nimi: Naser Hassanpour  
Sünniaeg: 08.01.1990  
Sünnikoht: Tabriz, Iraan  
Kodakondsus: Iraani

### Kontaktandmed

E-post: naser.hassanpour@taltech.ee

### Hariduskäik

2021–2025 Tallinna Tehnikaülikool – PhD  
2013–2016 M.Sc, Tabrizi ülikool, Tabriz, Iraan  
2008–2012 B.Sc, Tabrizi ülikool, Tabriz, Iraan  
2004–2008 keskhariidus, Amiralmomenini keskkool eliitõpilastele, Tabriz, Iraan

### Keelteoskus

pärsia keel Emakeel  
Aserbaidžaaani keel Emakeel  
inglise keel Kõrgtase

### Teenistuskäik

03.02.2025 – Doktorant-nooremteadur Tallinna Tehnikaülikool, Inseneriteaduskond, Elektroenergeetika ja mehhatroonika instituut  
01.09.2022–28.02.2023 Insener Tallinna Tehnikaülikool, Inseneriteaduskond, Elektroenergeetika ja mehhatroonika instituut  
01.05.2016–10.02.2021 Teadus- ja arendustegevuse elektriinsener, Alucast Iraan, Tabriz, Iraan

### Toetused ja projektid

**PRG1086** “Tulevikukindlad jõuelektroonikasüsteemid kodumajapidamiste mikrovõrkudele” (1.01.2021–31.12.2025); Vastutav täitja: Dmitri Vinnikov; Finantseerija: Sihtasutus Eesti Teadusagentuur.

**TK230U2** “Energiatõhususe tippkeskus” (01.01.2024–31.12.2030); Vastutav täitja: Dmitri Vinnikov; Finantseerija: Haridus- ja Teadusministeerium.