

## Res. Asst. PhD RAHMİ İLKER KAYAALP

### Personal Information

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### International Researcher IDs

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### Education Information

Doctorate, Cukurova University, Mühendislik Fakültesi, Elektrik-Elektronik Mühendisliği, Turkey 2015 - 2022

Postgraduate, Cukurova University, Mühendislik Mimarlık Fakültesi, Elektrik Elektronik Mühendisliği, Turkey 2013 - 2015

Undergraduate, Cukurova University, Mühendislik Mimarlık Fakültesi, Elektrik Elektronik Mühendisliği, Turkey 2009 - 2013

### Foreign Languages

English, C1 Advanced

### Certificates, Courses and Trainings

Education Management and Planning, PLC (Programmable Logic Controllers), Çukurova Teknik Elemanlar Derneği, 2012

Education Management and Planning, Endüstriyel Elektrik, Çukurova Teknik Elemanlar Derneği, 2011

### Dissertations

Doctorate, Modelling and Analysis of Hybrid Regenerative Power System combining with Grid and Solar Energy, Cukurova University, Fen Bilimleri Enstitüsü, Elektrik-Elektronik Mühendisliği, 2022

Postgraduate, Modelling and Analysis of Bidirectional DC-DC Converter, Cukurova University, Mühendislik Mimarlık Fakültesi, Elektrik Elektronik Mühendisliği, 2014

### Research Areas

Electrical and Electronics Engineering, Energy, Direct Energy Conversion and Energy Storage, Power System Analysis, Generating Stations and Plants, Electric Power Transmission, Distribution and Protection, Power Electronics, Electrical Machine Theory and Design, Power Apparatus (transformers,reactors,switchgear,etc.), Power Converters, Power Quality, Engineering and Technology

### Published journal articles indexed by SCI, SSCI, and AHCI

- I. **A review of magnetically controlled shunt reactor for power quality improvement with renewable energy applications**  
Tumay M., DEMİRDELEN T., Bal S., KAYAALP R. İ., DOĞRU B., AKSOY M.  
RENEWABLE & SUSTAINABLE ENERGY REVIEWS, vol.77, pp.215-228, 2017 (SCI-Expanded)
- II. **Simulation modelling and analysis of modular cascaded multilevel converter based shunt hybrid active power filter for large scale photovoltaic system interconnection**  
DEMİRDELEN T., KAYAALP R. İ., TÜMAY M.  
SIMULATION MODELLING PRACTICE AND THEORY, vol.71, pp.27-44, 2017 (SCI-Expanded)

### Articles Published in Other Journals

- I. **Modular Cascaded Multilevel Inverter Based Shunt Hybrid Active Power Filter For Selective Harmonic and Reactive Power Compensation Under Distorted Unbalanced Grid Voltage Conditions**  
DEMİRDELEN T., KAYAALP R. İ., TÜMAY M.  
Engineering, Technology Applied Science Research, vol.6, no.5, pp.1133-1138, 2016 (ESCI)
- II. **Comparison of Different Phase-Shift Control Methods at Isolated Bidirectional DC-DC Converter**  
KAYAALP R. İ., DEMİRDELEN T., KÖROĞLU T., CUMA M. U., Bayındır K. Ç., TÜMAY M.  
INTERNATIONAL JOURNAL OF APPLIED MATHEMATICS, ELECTRONICS AND COMPUTERS, vol.4, no.3, pp.68-73, 2016 (Peer-Reviewed Journal)
- III. **Modeling and Analysis of a Multilevel Parallel Hybrid Active Power Filter**  
DEMİRDELEN T., KAYAALP R. İ., TÜMAY M.  
ENGINEERING TECHNOLOGY & APPLIED SCIENCE RESEARCH, vol.6, no.3, pp.976-981, 2016 (ESCI)
- IV. **Modelling and Analysis of Bidirectional DC-DC Converter**  
KAYAALP R. İ., DEMİRDELEN T., TÜMAY M.  
International Educative Research Foundation and Publisher, 2015 (Peer-Reviewed Journal)

### Refereed Congress / Symposium Publications in Proceedings

- I. **A Comparative Survey of Battery Energy Storage Systems for Renewable Energy Sources**  
AYGÜL K., ESENBOĞA B., KAYAALP R. İ., DEMİRDELEN T., TÜMAY M.  
IMCOFE 2018, 24 - 26 July 2018
- II. **Comparison of Harmonics at Phase-Shift Controllers of Isolated Bidirectional DC-DC Converter for DC Grid Systems**  
KAYAALP R. İ., DEMİRDELEN T., CUMA M. U., BAYINDIR K. Ç., TÜMAY M.  
6th International Conference on Advanced Technology Sciences, Riga, Latvia, 12 - 15 September 2017
- III. **Manyetik Kontrollü Şönt Reaktör için Uygulanan Kontrol Yöntemlerini Literatür İncelemesi**  
TÜMAY M., DEMİRDELEN T., BAL S., KAYAALP R. İ., doğru b., aksoy m.  
ELECO 2016, Turkey, 1 - 03 December 2016, pp.96-100
- IV. **A novel fuzzy logic control for bidirectional DC-DC converter and comparison with dual phase-shift control method in medium voltage applications**  
KAYAALP R. İ., DEMİRDELEN T., TÜMAY M.  
2016 IEEE International Conference on Computational Intelligence and Virtual Environments for Measurement Systems and Applications, CIVEMSA 2016, Budapest, Hungary, 27 - 29 July 2016
- V. **Adaptive Input Voltage Prediction Method Based on ANN for Bidirectional DC-DC Converter**

KAYAALP R. İ., DEMİRDELEN T., TÜMAY M.

2nd International Conference on Systems Informatics, Modelling and Simulation (SIMS), Riga, Latvia, 1 - 03 June 2016, pp.35-40

- VI. **PSO - PI Based DC Link Voltage Control Technique for Shunt Hybrid Active Power Filter**  
DEMİRDELEN T., KAYAALP R. İ., TÜMAY M.  
2nd International Conference on Systems Informatics, Modelling and Simulation (SIMS), Riga, Latvia, 1 - 03 June 2016, pp.97-102
- VII. **Review of The Control Strategies Applied to Magnetically Controlled Shunt Reactor**  
TÜMAY M., DEMİRDELEN T., BAL S., KAYAALP R. İ., Dogru B., Aksoy M.  
National Conference on Electrical, Electronics and Biomedical Engineering (ELECO), Bursa, Turkey, 1 - 03 December 2016, pp.96-100
- VIII. **Performance Investigation of High Level Modular Multilevel Inverter based Shunt Hybrid Active Power Filter**  
DEMİRDELEN T., KAYAALP R. İ., TÜMAY M.  
International Symposium on Fundamentals of Electrical Engineering (ISFEE), Romania, 30 June - 02 July 2016
- IX. **A Power Rating and Application Survey of Magnetically Controlled Shunt Reactor**  
TÜMAY M., DEMİRDELEN T., BAL S., KAYAALP R. İ., Dogru B., Aksoy M.  
10th UKSim-AMSS European Modelling Symposium on Computer Modelling and Simulation (EMS), Pisa, Italy, 28 - 30 November 2016, pp.111-116
- X. **Comparison of Different Phase-Shift Control Methods at Isolated Bidirectional DC-DC Converter**  
KAYAALP R. İ., DEMİRDELEN T., KÖROĞLU T., CUMA M. U., BAYINDIR K. Ç., TÜMAY M.  
International Conference on Advanced Technology and Sciences, Antalya, Turkey, 4 - 07 August 2015, pp.273-279

## Supported Projects

TÜMAY M., KAYAALP R. İ., Project Supported by Higher Education Institutions, Şebeke ve Güneş Enerjisi bağlantılı Hibrit Rejeneratif Güç Sisteminin Modellenmesi ve Analizi, 2017 - 2022

TÜMAY M., DEMİRDELEN T., KAYAALP R. İ., Project Supported by Higher Education Institutions, Modelling and Analysis of Modular Cascaded Multilevel Converter Based Shunt Hybrid Active Power Filter for Large Scale Photovoltaic System Interconnection, 2016 - 2016

TÜMAY M., KAYAALP R. İ., Project Supported by Higher Education Institutions, Modelling and Analysis of Bidirectional DC-DC Converter, 2014 - 2015

## Scientific Refereeing

TURKISH JOURNAL OF ELECTRICAL ENGINEERING & COMPUTER SCIENCES , SCI Journal, July 2015

## Metrics

Publication: 17

Citation (WoS): 50

Citation (Scopus): 64

H-Index (WoS): 3

H-Index (Scopus): 3