

Asst. Prof. EMİNE BOSTANCI

Personal Information

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Foreign Languages

German, C1 Advanced

Dissertations

Doctorate, Performance analysis of brushless DC machines with axially displaceable rotor, Universitaet Hannover, 2014
Post Graduate, Modelling and testing of a brushless DC machine drive for automobile propulsion applications, Rheinisch-Westfaelische Technische Hochschule Aachen, 2010

Research Areas

Electrical Machine Theory and Design, Electric Motor Drivers

Academic Titles / Tasks

Assistant Professor, Middle East Technical University, Faculty of Engineering, Department of Electrical and Electronics Engineering, 2018 - Continues

Professional Experience

Bölüm Başkan Danışmanı, Middle East Technical University, Faculty of Engineering, Department of Electrical and Electronics Engineering, 2019 - Continues

Courses

Electromechanical Energy Conversion II, Under Graduate, 2019 - 2020

Utilization of Electric Energy, Under Graduate, 2018 - 2019, 2019 - 2020

Electromechanical Energy Conversion I, Under Graduate, 2018 - 2019, 2019 - 2020, 2020 - 2021

Electric Drives in Electric and Hybrid Electric Vehicles, Post Graduate, 2018 - 2019

Advising Theses

Bostancı E., Design, analysis and implementation of a 50 W wireless charger of a charging vest battery, Post Graduate,

M.EREN(Student), 2020

Bostancı E., Performance and Thermal Reliability Comparisons of 2-Level and 3-Level NPC Voltage Source Inverters for Electric Vehicle Drive Applications, Post Graduate, A.Madan(Student), 2019

Designed Lessons

Bostancı E., Electric Drives in Electric and Hybrid Electric Vehicles , Post Graduate, 2018 - 2019

Articles Published in Journals That Entered SCI, SSCI and AHCI Indexes

- I. **A Stray Magnetic Flux-Based Robust Diagnosis Method for Detection and Location of Interturn Short Circuit Fault in PMSM**
Gurusamy V., Bostancı E., Li C., Qi Y., Akin B.
IEEE TRANSACTIONS ON INSTRUMENTATION AND MEASUREMENT, vol.70, 2021 (Journal Indexed in SCI)
- II. **Severity Estimation of Interturn Short Circuit Fault for PMSM**
Qi Y., Bostancı E., Zafarani M., Akin B.
IEEE Transactions on Industrial Electronics, vol.66, pp.7260-7269, 2019 (Journal Indexed in SCI)
- III. **Interturn short-circuit faults in permanent magnet synchronous machines: An extended review and comprehensive analysis**
Zafarani M., Bostancı E., Qi Y., Gökteş T., Akin B.
IEEE Journal of Emerging and Selected Topics in Power Electronics, vol.6, pp.2173-2191, 2018 (Journal Indexed in SCI)
- IV. **Comprehensive Report on Design and Development of a 100-kW DSSRM**
Maharjan L., Bostancı E., Wang S., Cosoroaba E., Cai W., Yi F., Shamsi P., Wang W., Gu L., Luo M., et al.
IEEE Transactions on Transportation Electrification, vol.4, pp.835-856, 2018 (Journal Indexed in SCI)
- V. **A Comprehensive Analysis of Short-Circuit Current Behavior in PMSM Interturn Short-Circuit Faults**
Qi Y., Bostancı E., Gurusamy V., Akin B.
IEEE Transactions on Power Electronics, vol.33, pp.10784-10793, 2018 (Journal Indexed in SCI)
- VI. **Comparison of winding configurations in double-stator switched reluctance machines**
Cosoroaba E., Bostancı E., Li Y., Wang W., Fahimi B.
IET Electric Power Applications, vol.11, no.8, pp.1407-1415, 2017 (Journal Indexed in SCI)
- VII. **Opportunities and Challenges of Switched Reluctance Motor Drives for Electric Propulsion: A Comparative Study**
Bostancı E., Moallem M., Parsapour A., Fahimi B.
IEEE Transactions on Transportation Electrification, vol.3, pp.58-75, 2017 (Journal Indexed in SCI)
- VIII. **Influence of Phase Magnetic Couplings on Phase Current Characteristics of Multiphase BLDC Machines with Overlapping Phase Windings**
Bostancı E., Neuschl Z., Plikat R.
IEEE Transactions on Magnetics, vol.51, 2015 (Journal Indexed in SCI)
- IX. **Optimum design of a fuel-cell powertrain based on multiple design criteria**
Sarioglu I. L. , Czapnik B., Bostancı E., Klein O. P. , Schröder H., Küçükay F.
Journal of Power Sources, vol.266, pp.7-21, 2014 (Journal Indexed in SCI)
- X. **No-load performance analysis of brushless DC machines with axially displaceable rotor**
Bostancı E., Neuschl Z., Plikat R., Ponick B.
IEEE Transactions on Industrial Electronics, vol.61, pp.1692-1699, 2014 (Journal Indexed in SCI)

- I. **Effects of Rotor Flux Barrier Design on Torque Ripple and High Speed Performance of Synchronous Reluctance Machines**
Yilmaz Y. B. , Bostanci E.
2020 International Conference on Electrical Machines (ICEM), Gothenburg, Sweden, 23 - 26 August 2020, pp.448-454
- II. **Comparison of Two-Level and Three-Level NPC Inverter Topologies for a PMSM Drive for Electric Vehicle Applications**
Madan A., Bostanci E.
International Aegean Conference on Electrical Machines and Power Electronics (ACEMP) / International Conference on Optimization of Electrical and Electronic Equipment (OPTIM), İstanbul, Turkey, 27 - 29 August 2019, pp.147-154
- III. **Field Weakening Methods for Axially Displaceable Brushless DC Machines**
Bostanci E.
23rd International Conference on Electrical Machines, ICEM 2018, Alexandroupoli, Greece, 3 - 06 September 2018, pp.2171-2177
- IV. **Optimal design of synchronous reluctance machines**
Kiani M., Bostanci E., Fahimi B.
43rd Annual Conference of the IEEE Industrial Electronics Society, IECON 2017, Beijing, China, 29 October - 01 November 2017, pp.3749-3753
- V. **On the proximity effects of high-energy magnets on M-19 magnetic steel core**
Jayasankar S., Maharjan L., Cosoroaba E., Bostanci E., Fahimi B.
2017 IEEE International Electric Machines and Drives Conference, IEMDC 2017, Florida, United States Of America, 21 - 24 May 2017
- VI. **Thermal analysis of switched reluctance motor with direct in-winding cooling system**
Rahman N. A. , Bostanci E., Fahimi B.
17th Biennial IEEE Conference on Electromagnetic Field Computation, IEEE CEFC 2016, Florida, United States Of America, 13 - 16 November 2016
- VII. **Temperature estimation of switched reluctance machines using thermal impulse response technique**
Rahman N. A. , Gu L., Bostanci E., Fahimi B.
17th Biennial IEEE Conference on Electromagnetic Field Computation, IEEE CEFC 2016, Florida, United States Of America, 13 - 16 November 2016
- VIII. **Performance improvement and comparison of concentrated winding segmental rotor and double stator switched reluctance machines**
Bostanci E., Gu L., Cosoroaba E., Moallem M., Fahimi B.
17th Biennial IEEE Conference on Electromagnetic Field Computation, IEEE CEFC 2016, Florida, United States Of America, 13 - 16 November 2016
- IX. **Analytical calculation of the electromagnetic field in SRM using conformal mapping method**
Gu L., Bostanci E., Moallem M., Wang S., Devendra P.
2016 IEEE Transportation Electrification Conference and Expo, ITEC 2016, Michigan, United States Of America, 27 - 29 June 2016
- X. **Extended field reconstruction method for modeling of interior permanent magnet synchronous machines**
Gu L., Moallem M., Bostanci E., Wang S., Devendra P.
2016 IEEE Transportation Electrification Conference and Expo, ITEC 2016, Michigan, United States Of America, 27 - 29 June 2016

Mobility Activity

Other, Guest Researcher, University of Windsor, Canada, 2019 - 2019

Citations

Total Citations (WOS):191

h-index (WOS):6