

Curriculum Vitae

Mehmet Timur AYDEMİR

<https://orcid.org/0000-0001-9405-6854>

Web of Science Researcher ID ABH-1551-2020

SCOPUS ID: 6603308500

TÜBİTAK ID: TBTK-0004-4807

Place and Date of Birth: Trabzon, January 13, 1962

Education

- Ph.D. (1995) in Electrical and Computer Eng., University of Wisconsin-Madison-USA
Advisor: Dr. Thomas A. Lipo
Analysis and Comparison of Series Resonant DC Current Link Converter Topologies
- M.Sc. (1985) in Electrical and Electronic Eng., Black Sea Technical University, Trabzon- Turkey
Advisors: Dr. Rasim Aldemir / Dr. Guven Önbilgin
Investigation of Three Phase Induction Machines Fed by AC Chopper Through the Use of Park Vectors
- B.Sc. (1983) in Electrical and Electronic Eng., Black Sea Technical University, Trabzon- Turkey

Work Experience:

- Sept. 2020 –
Kadir Has University, Faculty of Engineering and Natural Sciences, Dept. of Electrical and Electronics Engineering.
- Oct.1995 – Sept. 2020
Gazi University, Faculty of Engineering, Department of Electrical and Electronics Engineering, Ankara TURKEY
- Aug. 2001-Aug. 2002
Visiting Scholar; Univ. of Wisconsin-Madison, (first six months were supported by Fulbright Scholarship)
- Jan.1991 - July1995
Research and Teaching Assistant, Univ. of Wisconsin-Madison, Department of Electrical and Computer Engineering
- March1984- Dec.1987
Research Assistant, Black Sea Technical University, Trabzon- Turkey

Courses Taught

Undergraduate: Electric Machinery I, II, Power Electronics I, II, Electric Drives, Electrical Engineering Design, Introduction to Electrical Engineering, Circuit Analysis, Industrial Control.

Graduate: Control of Electrical Machines; Control and Dynamics of AC Drives; Advanced Power Electronics, Semiconductor Power Converters, Switch Mode Power Supplies

Awards and Honors

2001 Fulbright Research Scholarship

1988 Ph.D. Study Scholarship from the Turkish Ministry of Education

1983 Ranked 2nd in the graduating class of 45

Memberships:

Institute of Electrical and Electronics Engineers (IEEE),
Chamber of Turkish Engineers and Architects

Publications in Journals indexed by SCI and SCI-E

1. Aydin, E.; Aydemir, M.T.; Aksoz, A.; El Baghdadi, M.; Hegazy, O. Inductive Power Transfer for Electric Vehicle Charging Applications: A Comprehensive Review. *Energies* 2022, 15, 4962. <https://doi.org/10.3390/en15144962>
2. S. Rahman, M.Y. Candan, B. Tamyurek, E. Aydin, H. Meşe, M. T. Aydemir “Design and Implementation of a 10 kV/10 kW High Frequency Center-Tapped Transformer” *Electr Eng* (2022). <https://doi.org/10.1007/s00202-022-01499-3>
3. M. Z. Erel, K. C. Bayindir, M. T. Aydemir, S. K. Chaudhary and J. M. Guerrero, "A Comprehensive Review on Wireless Capacitive Power Transfer Technology: Fundamentals and Applications," *IEEE Access*, vol. 10, pp. 3116-3143, 2022, doi: 10.1109/ACCESS.2021.3139761
4. Aydın, E., Aydemir MT; “A 1-kW wireless power transfer system for electric vehicle charging with hexagonal flat spiral coil”, *Turk J Elec Eng & Comp Sci*; 29, (2021), 2346-2361; DOI: 10.3906/elk-2012-68.
5. Köse H, Aydemir MT. “A Step-Down Isolated Three-Phase IGBT Boost PFC Rectifier Using a Novel Control Algorithm with a Novel Start-up Method” *Turk J Elec Eng & Comp Sci*; 29, (2021), 978-993; DOI: 10.3906/elk-2004-176.
6. Aydın, E., Yıldırım, E., Aydemir MT; “A new semi-analytical approach for self and mutual inductance calculation of hexagonal spiral coil used in wireless power transfer systems”, *Electrical Engineering*, 2021, 10.1007/s00202-020-01194-1.
7. Köse, H., & Aydemir, M. T. (2020). “Design and implementation of a 22 kW full-bridge push–pull series partial power converter for stationary battery energy storage system with battery charger.”, *Measurement and Control*. August 2020. <https://doi.org/10.1177/0020294020944944>

8. Sinan Yılmaz, Mehmet Timur Aydemir, "A novel initial rotor position alignment method for permanent magnet synchronous motors using incremental encoder", *Turk J Elec Eng & Comp Sci*; 27, (2019), 4731-4743; DOI: 10.3906/elk-1901-28.
9. Nabeel Sabri Altanneh, Akin Uslu, Mehmet Timur Aydemir, "Design of A Series Resonant Converter GMAW Welding Machine by Using the Harmonic Current Technique for Power Transfer", *Electronics* 2019, 8, 205; doi:10.3390/electronics8020205
10. Bülent Dağ, M. Timur Aydemir; "A simplified stability analysis method for LV inverter-based microgrids", *J. Mod. Power Syst. Clean Energy*, (2019) 7(3):612–620, <https://doi.org/10.1007/s40565-018-0478-1>.
11. Kutlay AYDIN, M. Timur AYDEMİR; "Sizing design and implementation of a flywheel energy storage system for space applications", *Turk J Elec Eng & Comp Sci* (2016) 24: 793 - 806
12. M. SAHIN, M. Timur AYDEMİR, H.I. OKUMUS, "Implementation of an Electrolysis System with DC/ DC Synchronous Buck Converter", *International Journal of Hydrogen Energy*, 39 (2014), pp: 6802-6812.
13. F.EVRAN, M. Timur AYDEMİR; "Isolated High Step-Up Dc-Dc Converter With Low Voltage Stress", *IEEE Trans. On Power Electronics*, vol.29, no.7, pp.3591,3603, July 2014.
14. Kutlay AYDIN, M. Timur AYDEMİR; "A control algorithm for a simple flywheel energy storage system to be used in space applications", *Turkish Journal of Electrical Engineering & Computer Sciences*. (2013) 21: 1328 - 1339
15. F. EVRAN, M. Timur AYDEMİR; "A Novel z-Source Based Isolated High Step Up Converter", *IET Power Electronics*, Jan. 2013, pp: 117-124.
16. Kutlay AYDIN, M. Timur AYDEMİR; "A New Current Reference Driving Method for the Electric Motors Used in Satellite Attitude Control Systems (in Turkish)", *Journal of Gazi University Faculty of Engineering and Architecture*, 26 (1), 125-138, 2011.
17. A.D. Erdoğan, M. T. Aydemir, "Use of Input Power Information for Load Sharing in Parallel Connected Boost Converters", *Electrical Engineering* 91 (2009) 229-250: DOI : 10.1007/s00202-009-0138-6)
18. Alper Sarikan, M. Timur Aydemir; "Real Time Digital Simulation and Hardware in the Loop Support; Applications and Restrictions (in Turkish)", *Gazi University Journal of Engineering and Architecture Faculty*, vol. 24, no 3, 517-524, 2009.
19. Emin Yildiriz, M. Timur Aydemir; "Analysis, Design and Implementation of an Axial Flux, Permanent Magnet Machine to be used in a Low Power Wind Generator, (in Turkish)", *Gazi University Journal of Engineering and Architecture Faculty*, vol. 24, no 3, 525-531, 2009.
20. Parlak, K.S., Ozdemir, M., Mehmet Timur Aydemir; "Active and Reactive Power Sharing and Frequency Restoration in a Distributed Power System Consisting of Two UPS Units", *International Journal of Electrical Power and Energy Systems*, 31 (2009) 220-226.
21. Parlak, K.S., Ozdemir, M., Mehmet Timur Aydemir; "Elimination of Voltage Harmonics Caused by Nonlinear Loads in Distributed Power Systems Consisting of Inverters", *International Review of Electrical Engineering*, vol.4, no:2, March-April 2009, pp: 228-234.

22. Aydemir, M.T., F. Evran; “Operation Principles of a Switched Capacitor Snubber Circuit Suggested for Half-Bridge DC-DC Converters”, International Journal of Electronics, vol. 96, no. 1, January 2009, pp. 29–42
23. Unver, H.M., Aydemir, M.T.; Celik, V.; Control freaks (Induction Furnace Logic Controller), Power Engineer (IEE), Volume 19, Issue 3, June/July 2005 Page(s):36 - 39
24. Gorazd Stumberger, Mehmet Timur Aydemir, Damir Zarko, and Thomas A. Lipo; Design of a Linear Bulk Superconductor Magnet Synchronous Motor for Electromagnetic Aircraft Launch Systems; IEEE Transactions on Applied Superconductivity, vol. 14, No. 1, March 2004, pp: 54-62
25. Y. Murai, H. Nakamura, T. A. Lipo, M.T. Aydemir: "Pulse-split Concept in Series Resonant DC Link Power Conversion for Induction Motor Drives", IEEE Ind. Appl. Trans., vol. 30, no. 1, Jan./Feb. 1994, pp.45-51
26. M.T. Aydemir, P. Caldeira, T.A. Lipo, Y. Murai, E. Da Silva, G. Ledwich: "Utilization of Series Resonant DC Link Power Conversion for a DC Motor Drive", IEEE Ind. Appl. Trans., vol. 29, no. 5, Sept./Oct. 1993, pp. 949-958

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1. M. Karadeniz, M. T. Aydemir & S. Ayasun. “Online parameter identification of a simplified composite load model by voltage sag events.” Turk J Electr Power Energy Syst. 2022; 2 (1): 21-30, 10.5152/tepes.2022.21041
2. Turan, E, Dağ, B, Tamyürek, B, Aydemir, MT. (2021). Design and Implementation of an Analog Controller Based on K-factor Design Method for a Novel Isolated Z-Source DC-DC Converter with High Voltage Gain. Gazi University Journal of Science Part C: Design and Technology, 9 (2), 317-334. DOI: 10.29109/gujsc.912858.
3. H. Kavak, M. Candan, M.T. Aydemir , "Experimental Verification of Output Inductor-less Phase-Shifted Full-Bridge Converter for Capacitor Charger Application", Gazi University Journal of Science Part A: Engineering and Innovation, v. 7(2), pp. 59-68, July. 2020
4. Cansu Ozturk YILMAZ, Oguz Simsek, M. Timur AYDEMİR; 2019). DESIGN AND IMPLEMENTATION OF A 300A MODULAR WELDING INVERTER. Gazi University Journal of Science Part A: Engineering and Innovation, 6 (2), 33-41; 2019.
5. Mesbah, AK; Shan, A; **Aydemir, MT**; “Optimum Placement of PMUs in the Power Transmission System of Afghanistan”, Gazi University Journal of Science, Volume: 30 Issue: 4 Pages: 268-281
6. **M. Timur AYDEMİR**, Fatemeh ZAFARMAND, Akın USLU, H. Murat ÜNVER, Besim BARANOĞLU, Elif Uray AYDIN, “Design and Implementation of an Induction Heating System for Brittle Sheet Metals”, IJNES - International Journal of Natural and Engineering Sciences, 2017 (3), 29-33.
7. **Aydemir, M.T.**, F. Evran; “Soft Switched Half-Bridge DC-DC Converter with Switched Capacitor Snubber”, Electromotion, vol. 15, no.1, January-February 2008, pp:19-30.

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1. S. Rahman, Y. Kosesoy, M. A. Ozdemir, O. Simsek, M. T. Aydemir and A. Chub, "Design and Practical Implementation of a Parallel-Switched Power Factor Correction Boost Converter," 2021 14th IEEE International Conference on Industry Applications (INDUSCON), 2021, pp. 395-400, doi: 10.1109/INDUSCON51756.2021.9529871.
2. M. A. Özdemir, O. Şimşek and M. T. Aydemir, "A Load Adaptive Cascade PI Controller for Buck Converters Operating in Wide Load Range in Cathodic Protection Systems," 2021 8th International Conference on Electrical and Electronics Engineering (ICEEE), 2021, pp. 73-79, doi: 10.1109/ICEEE52452.2021.9415936.
3. S. Rahman, B. Tamyürek, M.Y. Candan, H. Meşe, M.T. Aydemir, "Design of a 10 kW, 100kV High Voltage DC Power Supply", 9th International Conference on Advanced Technologies (ICAT'20), Istanbul, Turkey November 2020
4. A. USLU, N. S. ÖZBEK and T. AYDEMİR, "An Adaptive Passivity Based Control of Grid Connected VSC with Integral Action," 2019 3rd International Symposium on Multidisciplinary Studies and Innovative Technologies (ISMSIT), Ankara, Turkey, 2019, pp. 1-6. doi: 10.1109/ISMSIT.2019.8932856
5. M.Z. Erel, K. Ç. Bayindir, M. T. Aydemir; "Design and Analysis of a 3.3kW Inductive Power Transfer System", The 4th International Conference on Power Electronics and their Applications (ICPEA), Elazığ, 25-27 Sep. 2019.
6. M.Z. Erel, K. Ç. Bayindir, M. T. Aydemir; "Analysis and Design of the Capacitive Power Transfer Applications for Low Power and High Power Cases", The 4th International Conference on Power Electronics and their Applications (ICPEA), Elazığ, 25-27 Sep. 2019.
7. I. Onur Loraz, M. Timur Aydemir; Improving the Modular Layer Method to Represent the Capacitive Effects of Overlapping Layers in Planar Transformers, Joint International Conference International Aegean Conference on Electrical Machines and Power Electronics & Optimization of Electrical & Electronics Equipment Conference. ACEMP-OPTIM 2019, Istanbul, Turkey, 27-29 August 2019.
8. Y. Kosesoy, E. Aydin, E. Yildiriz and M. T. Aydemir, "Design and Implementation of a 1-kW Wireless Power Transfer System for EV Charging," 2019 IEEE 13th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG), Sonderborg, Denmark, 2019, pp. 1-5.
9. E. Aydin, Y. Kosesoy, E. Yildiriz and M. Timur Aydemir, "Comparison of Hexagonal and Square Coils for Use in Wireless Charging of Electric Vehicle Battery," 2018 International Symposium on Electronics and Telecommunications (ISETC), Timisoara, 2018, pp. 1-4.
10. Ersan Koray Erşan, M. Timur Aydemir; "Design Procedure of Optimized Double-Sided LCC Compensation Topology for Wireless Power Transfer", 3rd International Conference on Engineering Technology and Applied Sciences (ICETAS), July 17-21 2018, Skopje Macedonia, pp: 309-314.
11. Ö Bulut, MT Aydemir, "Design and loss analysis of a 200-W GaN based active clamp forward converter", 2018 5th International Conference on Electrical and Electronic Engineering (ICEEE), Istanbul Turkey, pp:97-100.

12. Akın USLU, Ali PASHAEI, Nabeel ALTANNEH, M. Timur AYDEMİR, “Design of a Photovoltaic Power and Hydrogen Based Stand-Alone Hybrid Renewable Energy System on a Mobile Platform”, 16th International Conference on Clean Energy (ICCE-2018), 9-11 May 2018, Famagusta, N. Cyprus
13. F. Öztürk, MT Aydemir; “A Low Power Wireless Power Transfer Prototype Design and Implementation”, International Conference on Electrical and Electronics Engineering, ELECO 2017, Bursa, TURKEY, pp. 411-415
14. E. Aydın, ME Çelik, MT Aydemir, “Investigation the Effect of Misalignment and Distance between the Coils for Wireless Power Transfer in Retinal Implants”, International Conference on Electrical and Electronics Engineering, ELECO 2017, Bursa, TURKEY, pp. 620-623
15. M. Karadeniz and M. T. Aydemir, "A Kalman Filter based transient state estimation method applicable to whole or specific region of power systems having known and unknown loads," 2017 4th International Conference on Electrical and Electronic Engineering (ICEEE), Ankara, 2017, pp. 91-94.
16. E. Aydın, J. H. Kim, E. Yildiriz, M. T. Aydemir and B. Sarlioglu, "A hybrid-excited axial transverse flux permanent magnet generator," *2016 IEEE Energy Conversion Congress and Exposition (ECCE)*, Milwaukee, WI, USA, 2016, pp. 1-6.
doi: 10.1109/ECCE.2016.7854701
17. M. Karadeniz and M. T. Aydemir, "A power system transient state estimation method based on Kalman filtering," 2016 24th Signal Processing and Communication Application Conference (SIU), Zonguldak, 2016, pp. 261-264.
doi: 10.1109/SIU.2016.7495727
18. Aksoy, H; Aydemir, M.T. “Comparison of Zero Voltage Switching Phase-Shifted PWM Full Bridge DC-DC Converter Topologies”, International ACEMP-OPTIM-ELECTROMOTION 2015, Side Turkey, 2-4 Ekim 2015, pp: 818-824.
19. Aydın, E.; Li Y.; Aydın, I.; M.T. Aydemir;; Sarlioglu, B., "Minimization of torque ripples of interior permanent magnet synchronous motors by particle swarm optimization technique," *IEEE Transportation Electrification Conference and Expo (ITEC)*, 2015, pp.1-6, 14-17 June 2015.
20. M. Kiyani and M. T. Aydemir, "Load balancing, reactive power compensation and neutral current elimination in three phase — Four wire systems," *Power Electronics and Motion Control Conference and Exposition (PEMC)*, 2014 16th International, Antalya, 2014, pp. 1278-1282.
21. K. Dokumacı, M. U. Salamcı, M. T. Aydemir; “Modeling, PID Control and Simulation of a Rocket Launcher System”, 16th International Power Electronics and Motion Control Conference and Exposition Antalya, Turkey 21-24 Sept 2014, pp: 1518, 1523.
22. Bulent Dag, **M. Timur Aydemir**, Mohamed S. Smiai; “Modelling and Analysis of Unsymmetrical Multi-microgrid Operation of Active Distribution Networks”, 4th International Conference on Power Engineering, Energy and Electrical Drives, 13-17 May, 2013, Istanbul, Turkey,
23. Bulent Dag, **M. Timur Aydemir**, Mohamed S. Smiai; “An Unbalanced Load Flow Analysis Tool For Inverter Interfaced Distributed Generation Networks”, *EWRES - The European Workshop on Renewable Energy Systems*, Antalya, TURKEY, 10-20 Sep. 2012.

24. Fatih Evran, **M. Timur Aydemir**; “A Coupled-Inductor Z-Source Based Dc-Dc Converter With High Step-Up Ratio Suitable For Photovoltaic Applications”, 3rd International Symposium on Power Electronics for Distributed Generation Systems; May 2012, Aalborg-Denmark, p: 647-652.
25. D. Vyawahare, H. Kose, **M. T. Aydemir**, M.C. Chandorkar, “Design and Analysis of PLLs for Line-Connected Converters in Three Phase Systems” International Aegean Conference on Electrical Machines and Power Electronics & Electromotion Joint Conference, Istanbul Turkey, 8-10 September 2011.
26. Alper Sarikan, **M.T. Aydemir**; “Real Time Digital Simulation of a Satellite Attitude Control System”, SPEEDAM 2010, International Symposium on Power Electronics, Electrical Drives, Automation and Motion, Pisa-ITALY, 14-17 June, 2010, p:827-832.
27. Kutlay Aydin, **M.T. Aydemir**; “Utilization of the Inverter as a Boost Rectifier for the Voltage Regulation of Mechanical Batteries”, MELECON 2010, Valetta-Malta, 25-28 April, 2010, p:1204,1028.
28. Alper Sarikan, **M.T. Aydemir**; “Real Time Digital Simulation (RTDS) Software and Hardware in the Loop (HIL) Architecture for Brushless DC Motors”, MELECON 2010, Valetta-Malta, 25-28 April, 2010, p:779-783.
29. Ahmet Devrim Erdoğan, **Mehmet Timur Aydemir**, “Application of Adaptive Droop Method to Boost Converters Operating at the Output of Fuel Cells”, 6th International Conference on Electrical and Electronics Engineering (ELECO), 5-8 November 2009, Bursa, TURKEY, v1. 321-325.
30. Lebens, N., G. Venkataramanan, **M.T. Aydemir**, “Analysis, Design and Evaluation of a Floating Capacitor Soft Switching High Power Single Phase Boost Rectifier”, 5th International Conference on Electrical and Electronics Engineering (ELECO), 5-9 December 2007, Bursa, TURKEY
31. AD. Erdogan, **M. T. Aydemir**; “Hot-Swap Parallel Operation of Boost Converters Designed for the Output of Fuel Cells”, International Aegean Conference on Electric Machines, Power Electronics and Electromotion Joint Conference, Bodrum-Turkey, Sept. 10-12, 2007, Conference Proceedings pp: 676-683
32. Parlak, K.S., Ozdemir, M., Erdogan, A.D., **Mehmet Timur Aydemir**; “Elimination of Voltage Harmonics at the Output of Three-Phase Inverters Operating with Nonlinear Loads”, 3rd International Conference on Technical and Physical Problems in Power Engineering, 29-31 May 2006, Ankara-TURKEY, Conference Proceedings, pp. 353-359.
33. Parlak, K.S., **Mehmet Timur Aydemir**, Ozdemir, M.; “Active and Reactive Power Sharing in Parallel Operated Inverters”, IEEE MELECON 2006 Mediterranean Electrotechnical Conference, Benaimciden (Mcilaga), Spain, 16-19 May 2006 Page(s):1052 - 1055
34. Parlak, K.S., **Mehmet Timur Aydemir**, Mehmet Özdemir; “Active Power Sharing and Frequency Restoration in Parallel Operated Inverters”, Eleventh International Conference on Electrical Machines, Drives and Power Systems (ELMA 2005), Sept. 15-16, 2005, Sofia, Bulgaria; pp: 448-452
35. Unver, M, **Aydemir, M.T.**; “A Simple Induction Heating Design for the Steel Molds of Aluminum Extrusion Presses”; 2nd International Conference on Technical and

- Physical Problems in Power Engineering, 2-8 September, 2004, Tabriz-Iran, Conference Proceedings, pp. 57-60.
36. Stumberger, G., **Aydemir M.T.**, Zarko, D., Lipo, T.A.; "Design and Comparison of Linear Synchronous Motor and Linear Induction Motor for Electromagnetic Aircraft Launch Systems", Electric Machines and Drives Conference, 2003. IEMDC'03. IEEE International, Volume: 1 , 1-4 June 2003, Page(s): 494 -500 vol.1.
 37. **M. T. Aydemir**, A. Bendre, G. Venkataramanan, "A Critical Evaluation of High Power Hard and Soft Switched Isolated DC-DC Converters", IEEE Ind. Appl. Soc. Ann. Meet, 2002, Volume: 2 , pp. 1338 -1345
 38. S.G. Abeyratne, **M.T Aydemir**, T. A. Lipo, Y. Murai, M. Yoshida: "Current Clamped, PWM, Quasi Resonant DC Link Series Resonant Converter", IEEE Ind. Appl. Soc. Ann. Meet., 2-6 Oct. 1994, Denver USA, pp. 820-824
 39. E. Da Silva, G. Ledwich, **M.T. Aydemir**: "A PWM High Frequency Series Resonant DC Link Converter and Its Utilization as a DC Motor Drive", 9th Brazilian Conf. Automatic Control 1992, Conference Records
 40. G. Ledwich , E. Da Silva, **M.T. Aydemir**, T. A. Lipo "Impact of Control Strategy on Component Ratings of Series Resonant DC Link Current Converter", First International Aegean Conf. on Electrical Machines and Power Electronics, May 27-29 Kusadasi-Turkey, pp. 511-516
 41. E. Da Silva, G. Ledwich, **M.T. Aydemir**, T. A. Lipo: "Pulse Width Modulated Series Resonant Converter", IEEE Ind. Appl. Soc. Ann. Meet. Conf. Rec., 1992, pp. 744-749
 42. Rasim Aldemir, A. Sezgin, **M. Timur Aydemir**: "Investigation through the Use of Park Vectors of a Voltage Controlled Three Phase Induction Motor", International Conference on Evolution and Aspects of Induction Machines, July 8-11 1986, Torino-Italy, pp. 490-494.

Publications in National Refereed Journals

1. Kubilay, M, Aydemir, M.T. (2020). "Development of a Graphical Interface that can be used for LLC Resonant DC-DC Converter Design". Gazi University Science Journal Part C: Design and Technology, 8 (3) , 632-643 . DOI: 10.29109/gujsc.740481
2. KOKUNDU, S, AYDEMİR, M.T. (2020). UVDGM Tabanlı AYK Yöntemiyle Fırçasız Doğru Akım Motorunun Konum Kontrolü (Position Control of Brushless Direct Current Motor with SVPWM Based FOC Method). Gazi Üniversitesi Fen Bilimleri Dergisi Part C: Tasarım ve Teknoloji, 8 (1), 1-14. DOI: 10.29109/gujsc.565375
3. GÜNBAZ, M, AYDEMİR, M.T. (2020). Kuvars İvmeölçer Kapalı Döngü Analog Okuma Devresi (Quartz Accelerometer Closed Loop Analog Readout Circuit). Gazi Üniversitesi Fen Bilimleri Dergisi Part C: Tasarım ve Teknoloji, 8 (1), 15-25. DOI: 10.29109/gujsc.563873
4. Loraz, İ; Aydemir, M.T., "Düzlemsel Transformatörlerin Benzetiminde Kullanılan MLM Yönteminin Hızlandırılmasına Yönelik Bir Çalışma (A Study to Accelerate the MLM Method used for the Simulation of Planar Transformers)" EMO BİLİMSEL DERGİ, 8 (2), 29-35. <http://dergipark.gov.tr/emobd/issue/43431/513321>
5. E. Aydın, Ali Pashaei, Emin Yıldırım, M. T. Aydemir, "Elektrikli Araçlar için 2.2 kW Gücünde Bir Kablosuz Güç Aktarım Sisteminin Tasarımı", Science and Eng. J of Fırat Univ, 30(3),1-6, 2018.

6. H. Köse, M. T. Aydemir, “Kısmi Güç İle Düzenleme Yapan Yeni Bir DA/DA Dönüştürücü Tasarımı”, Science and Eng. J of Fırat Univ, 30(3),37-42, 2018.
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8. Faruk Keskin, Hüseyin Köse, Harun Gül, M. Timur Aydemir; “Faz Kaydırmalı Darbe Genişlik Modülasyonlu 20 kVA Gücünde Bir AA Gerilim Düzenleyici Devrenin Tasarımı ve Gerçekleştirilmesi”, EMO Bilimsel Dergi, Cilt 2, Sayı 3, s: 51-61, Haziran 2012, Cilt 5, Sayı 9 (2015), s:6-17.
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10. Parlak, K.Ş., **Mehmet Timur Aydemir**, Mehmet Özdemir; “Active Power Control in Distributed Power Systems Consisting of Parallel UPSs (in Turkish)”, İTÜ Dergisi/D-Mühendislik, cilt:7, sayı:3, 3-12, Haziran 2008.
11. Parlak, K.S., **Mehmet Timur Aydemir**, Mehmet Özdemir; “Distributed Power System Consisting of Inverters (in Turkish)”, Fırat Üniversitesi Fen ve Muhendislik Bilimleri Dergisi, cilt 19, sayı 1, 79-84, (2007)

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2. E. Aydın, M. T. Aydemir, “Design of a 2.2 kW Wireless Power Transfer System for Electric Vehicles (Elektrikli Araçlar için 2.2 kW Gücünde Bir Kablosuz Güç Aktarım Sisteminin Tasarımı)”, 1st National Electrical Energy Conversion Congress (1. Ulusal Elektrik Enerjisi Dönüşümü Kongresi), 21-22 Sept. 2017 Elazığ; pp:7-11.
3. H. Köse, M. T. Aydemir, “A New Partial Power Processing DC-DC Converter Design (Kısmi Güç İle Düzenleme Yapan Yeni Bir DA/DA Dönüştürücü Tasarımı)”, 1st National Electrical Energy Conversion Congress (1. Ulusal Elektrik Enerjisi Dönüşümü Kongresi), 21-22 Sept. 2017 Elazığ; pp: 145-150.
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5. K. Dokumacı, M. U. Salamcı, M. T. Aydemir; “Matemathical Modeling of a Permanent Magnet Synchronous Motor Actuated Rocket Launcher”, Turkish Automatic Control Meeting, TOK 2014, Kocaeli-Turkey, Sept. 11-13, 2014, pp: 60-65.
6. K. Dokumacı, M. U. Salamcı, M. T. Aydemir; “Control of an Electromagnetic Rocket Launcher with Calculated Torque + Sliding Mode Control”, Turkish Automatic Control Meeting, TOK 2014, Kocaeli-Turkey, Sept. 11-13, 2014, pp: 66-71.
7. Bulent Dag, **M. T. Aydemir**, Abdullah Nadar, “A Microgrid Concept with Inverter Interface Including Hybrid Renewable Energy Sources for Residential Areas (in Turkish)”, 2. National Congress on Electrical Installations, 24-27 November 2011, İzmir.

8. Fatih Evran, Mehmet Timur **Aydemir**, "Application of Real Time Simulation Techniques to Solar Energy Systems (in Turkish)" VI. Renewable Energy Resources Symposium, 14-16 October 2011, Denizli.
9. A.D. Erdoğan, **M. T. Aydemir**; "Current Sharing in Parallel Operating Boost DC/DC Converters by using Adaptive Droop Method", 13th National Congress of Electrical, Electronics and Computer Engineering, 23-26 December 2009, Ankara, pp.159-164.
10. Kutlay Aydin, M. T. Aydemir ; "Electrical Dynamic Model of Active Magnetic Beds", 13th National Congress of Electrical, Electronics and Computer Engineering, 23-26 December 2009, Ankara, pp.265-269.
11. Emin Yildiriz, M.T. Aydemir; "A Small-Power Hand-Made Axial-Flux-Permanent-Magnet Wind Generator Application", 2nd Wind Energy Symposium, 4-5 June 2009 Samsun, pp:104-107
12. K.Ş. Parlak, M.T. Aydemir, M. Özdemir; "Distributed Power System Consisting of Three Inverter Units", Electric-Electronic-Computer Engineering Conference (ELECO), 70-74, Bursa, 2008.
13. Aydin, K., M.T. Aydemir, "Enerji Saklayabilen Moment Kontrol Jiroskoplarında (ESMKJ) Kullanılan Aktif Manyetik Rulmanların Enerji Tüketimi (Energy Consumption of Active Magnetic Bearings Used in Energy Storage Moment Control Gyroscopes)", Electric-Electronic-Computer Engineering Conference (ELECO), 258-262, Bursa, 2008.
14. Aydin, K., M.T. Aydemir, "Enerji Saklayabilen Moment Kontrol Jiroskobu Motor/Jeneratör Ünitesindeki Kayıplar ve Kayıp Azaltma Yöntemleri (Losses of the Motor/Generator Unit of Energy Storage Moment Control Gyroscopes, and Loss Reduction Methods)", SAVTEK 2008, 4. Defense Technologies Congress, June 26-27 2008, Ankara, Turkey, pp:457-464.
15. Aydin, K., M.T. Aydemir, "Enerji Saklayabilen Moment Kontrol Jiroskopları (**Energy Storage Moment Control Gyroscopes**)", 12th National Congress of Electrical, Electronics and Computer Engineering, November 14-18, 2007, Eskisehir, Turkey
16. K.S. Parlak, M.T. Aydemir, A.D.Erdoğan, M. Özdemir; "Paralel Çalışan Dajinik Inverterlerde Aktif Güç Paylaşımı (Active Power Sharing in Parallel Operating Distributed Inverters)", TOK'05 Automatic Control National Meeting, June 2-3, 2005 Istanbul, pp: 557-561.
17. Erdoğan, A.D., Aydemir, M.T.; "Paralel Bağlı Buck Türü DC/DC Donusturucularda Dalgalanma Analizi (Ripple Analysis of Parallel Connected Boost Converters)", 10th National Congress of Electrical, Electronics and Computer Engineering, Sept. 18-21, 2003, Istanbul, Conf. Proceedings, Cilt 1, s. 173-176.
18. Rasim Aldemir, M. Timur Aydemir: " Üç Fazlı Degisken Gerilim Kiyici ile Beslenen Asenkron Makinaların Park Vektorleri ile İncelenmesi (Investigation through the Use of Park Vectors of a Voltage Controlled Three Phase Induction Motor)", Conf. Records of 1st National Congress of Electrical Engineers, Oct.1985, Adana, TURKEY, pp. 624-629

Translation Books

1. **Electric Circuits 3rd Edition**; by J. Edminister and M. Nahvi; Schaum's Outline Series; published in 1998 by Nobel Pub. Ankara (co-translator: K. Cem Nakiboglu)

2. **Electromagnetics**; by J. Edminister; Schaum's Outline Series; Sept. 2000 by Nobel Pub. Ankara. (co-translators: Erkan Afacan and K. Cem Nakiboglu)
3. **Signals and Systems**; by H.P. Hsu, H.P. Hse; Schaum's Outline Series; published in 2001 by Nobel Pub. Ankara, (co-translators: V.Silindir, H. Dag, E. Afacan and K. Cem Nakiboglu).
4. **Basic Engineering Circuit Analysis** by Irwin; John Wiley and Sons; published in 2013 by Nobel Academic Pub. Ankara, (co-translators: Hasan Dag, Sedat Sunter, Halis Altun)
5. **Power Electronics: Devices, Circuits, And Applications by M. Rashid) (4th Edition)** published in 2015 by Nobel Academic Pub. Ankara, (co-editor)

Research Projects Conducted

1. Impedance Source Dc-Dc Converter Based High-Voltage Dc Power Supply Design, Supported by Turkish Scientific and Technical Research Council.
2. Development of a Contactless Power Transfer System to be used in Battery Charging of Electrical Vehicles. Supported by Turkish Scientific and Technical Research Council.
3. Multifunction 300-A Inverter Type Welding Machine Design. Supported by Ministry of Science, Industry and Technology.
4. Design and Implementation of a Lithium-Ion Battery Pack with Uninterruptable Power Supply Feature. Supported by Ministry of Science, Industry and Technology.
5. Intelligent Motor Drive Hardware Development for Three Phase Induction Motors Supported by Ministry of Science, Industry and Technology.
6. Design and Implementation of a High Gain z-source DC-DC and DC-AC Converters Utilizing Coupled Inductors for Solar Energy Systems, Supported by Turkish Scientific and Technical Research Council.
7. Development of Static Transfer Switch for Uninterrupted Power Supplies; Supported by Ministry of Industry, in cooperation with GESS/OES.
8. Achieving Current Sharing in Parallel Operating DC-DC Converters by Using Adaptive Droop Method; Supported by Turkish Scientific and Technical Research Council.
9. Real Time Digital Simulation and Hardware in the Loop Testing of Satellite Attitude Systems; Supported by Turkish Scientific and Technical Research Council
10. 200 A High Frequency Switched DC and AC/DC Welding Machine Development; Supported by Ministry of Industry, in cooperation with NURIS Welding Machines.
11. Design and Implementation of an Observation and Control System for a Renewable Energy Platform, (Gazi University Research Projects Fund)
12. Design and Implementation of a Small Land Vehicle Powered by Solar Panels and Fuel Cell, Supported by Gazi University Research Projects Fund.

Research Projects (Researcher)

1. Solar-Hydrogen-Electricity Cycle, Supported by State Planning Agency of Turkey, Interdisciplinary project with Chemical and Mechanical Engineering (Clean Energy Research and Application Center)

2. DC/DC Converter Design for Plasma Cutting Machines (University of Wisconsin-Madison)
3. Application of Superconductor Bulk Permanent Magnets in Electromagnetic Aircraft Launching Systems (University of Wisconsin-Madison)

Research Projects (Consulted)

1. Implementation of a 25 kHz 16 kW inverter type microprocessor-controlled welding machine; Supported by TIDEB and Nuris Welding Machines.
2. Development of a 300 kVA PWM Switched Auxiliary Circuit Automatic Voltage Regulator (GESS OES, Supported by TEYDEB-TUBİTAK)
3. Development of a Zero Current Switching Compensation System for Pulsating Loads (GESS OES, Supported by TEYDEB-TUBİTAK)
4. Energy Storage Moment Control Gyroscopes (TUSAS; Supported by TUBİTAK (2006-2010)
5. Development of a DSP based DC Power Supply (ESDAS, Supported by TEYDEB-TUBİTAK) (2005-2006)

Supervised Ph.D. Thesis Projects

1. (H. Murat UNVER) Control of Power Units of Induction Steel Furnaces by Using PLCs; Kirikkale University, Institute of Science and Technology, Jan 2004, Kirikkale
2. (Ahmet Devrim Erdoğan) Development and Implementation of Novel Paralleling Methods for Boost Dc-Dc Converters used at the Outputs of Fuel Cells, Gazi University, Institute of Science and Technology, Feb. 2009, Ankara
3. (Kutlay Aydın) Design and Implementation of a Flywheel Energy Storage that can be Used in Satellite Integrated Power and Attitude Control Systems; Gazi University, Institute of Science and Technology, September 2010.
4. (Alper Sarıkan) Application of Real Time Digital Simulation and Hardware in the Loop Techniques to Satellite Attitude Control Systems; Gazi University, Institute of Science and Technology, September 2010.
5. (Fatih EVRAN) High Gain z-source DC-DC Converter Topologies Utilizing Coupled Inductors, Gazi University, Institute of Science and Technology, September 2012.
6. (Bulent Dag) Generalized Stability Analysis for Inverter Interfaced Microgrids, Gazi University, Institute of Science and Technology, October 2015.
7. (Ü. Akın Uslu) Improved passivity based controller with nonlinear disturbance observer for grid tied voltage source inverters, Gazi University, Institute of Science and Technology, 2019.
8. (Nabeel Sabri Altanneh) Power Control Of Series-Series Resonant Converter Based Battery Charger Through Harmonic Current Control Method, Gazi University, Institute of Science and Technology, 2019.
9. (Emrullah Aydın) Design, Inductance Calculation and Implementation of Hexagonal Coil For Wireless Power Transfer Systems, Gazi University, Institute of Science and Technology, 2020.
10. (Ali Pashaei) Hexagon-Square Hybrid Coil Design For Wireless Power Transfer System, Gazi University, Institute of Science and Technology, 2021.

11. (Mehmet Zahid Erel) Developing Solutions for the Application of Capacitive Type Wireless Energy Transfer Systems to Electric Vehicle Battery Charging, Yildirim Beyazit University, Institute of Science and Technology, 2022. (Co-Advisor)

Some of the Supervised Master's Thesis Projects

1. (Ahmet Devrim Erdogan) Analysis of Buck and Synchronous Buck Converters Operating in Parallel; Gazi University, Institute of Science and Technology, July 2001
2. (Nihat Akyuz) Design and Construction of Microprocessor Controlled Cathodic Protection Circuit; Gazi University, Institute of Science and Technology, July 2001
3. (Kutlay Aydin) Vector Control of Induction Motor and SRDCL Inverter; Gazi University, Institute of Science and Technology, July 2001
4. (Alper Sarikan) Active Power Filter Application with Arc Furnaces; Gazi University, Institute of Science and Technology, July 2001
5. (Umut Demirezen) The Analysis and Simulations of Vector Controlled Permanent Magnet Synchronous Motor and Brushless DC Motor Drive System; Gazi University, Institute of Science and Technology, Sept 2002
6. (Yavuz Öziba) Use of Multilevel Inverters in Charging the Batteries of Electric Vehicles, Gazi University, Institute of Science and Technology, May 2005
7. (Asuman Saglikcioglu) Inverter Design for a 100 W Fuel Cell, Gazi University, Institute of Science and Technology, June 2005
8. (Gokhan Cakir) A Soft-Switching Boost DC-DC Converter Topology, Gazi University, Institute of Science and Technology, April 2006.
9. (Mustafa Ergin Sahin) Design and Implementation of a Synchronous Buck Converter for Hydrogen Production by Electrolysis, Gazi University, Institute of Science and Technology, May 2006
10. (Isa Gok) Phase-Shift Soft-Switching PWM DC-DC Converter Design for a Battery Charger, Gazi University, Institute of Science and Technology, November 2006
11. (Serife Camci) Design and Modelling of a Stand-Alone Residential Power Source using Fuel Cells and Solar Cells, Gazi University, Institute of Science and Technology, October 2007
12. (Fatih Evran) Switched Capacitor, Soft Switching Half Bridge DC-DC Converter, Gazi University, Institute of Science and Technology, January 2008.
13. (Emin Yildiriz) A Low Power Wind Turbine Implementation Using Brushless DC Generator, Gazi University, Institute of Science and Technology, July 2008
14. (Arzu Koparan) Implementation of 200 Ampere, High Frequency Switching DC and AC/DC Arc Welding Machines, Gazi University, Institute of Science and Technology, July 2010.
15. (Bahadır Bülbül) Design and Implementation of MPPT Algorithm Test System, Gazi University, Institute of Science and Technology, Sept. 2011.
16. (F. Ercan Karagöz) Operation of Boost DC-DC Converters in Parallel with Droop Control Method; Gazi University, Institute of Science and Technology, Oct. 2011.
17. (Nabeel ALTANNEH) Design and Implementation of a Battery Charge System for a Small Electric Vehicle Powered by Batteries and Fuel Cells; Gazi University, Institute of Science and Technology, May 2012.

18. (Hüseyin KÖSE) Design and Implementation of Static Transfer Switches for Uninterrupted Power Supplies; Gazi University, Institute of Science and Technology, May 2012.
19. (Hacer KARAGÖL) Electromagnetic Compatibility Problems and Solution Offers In Dc/Dc Converters, Gazi University, Institute of Science and Technology, June 2013.
20. (Atilla SARITAŞ) Smart Grid and Investigation of Phasor Measurement Optimal Placement On Grid; Gazi University, Institute of Science and Technology, July 2013.
21. (Ali Pashaei), Design And Implementation of a Pulse Width Modulated Rectifier for Industrial Applications, Gazi University, Institute of Science and Technology, December 2013.
22. (Adem Ergun), Bidirectional DC-DC Converter Design and Implementation for Electrical Vehicles with Hybrid Energy Storage Systems, Gazi University, Institute of Science and Technology, November 2014.
23. (Faruk Keskin), AC Voltage Regulation with Phase Shifted Pulse Width Modulation, Gazi University, Institute of Science and Technology, December 2014.
24. (Ceren Kahraman) Development And Validation of a Hardware in the Loop Model of the Control System Design for a Hydroelectric Power Plant, Gazi University, Institute of Science and Technology, June 2015.
25. (Abdul Karim Mesbah) Application of Optimum Phasor Measurement Unit Placement Algorithms for Smart Grids to Afghanistan, Gazi University, Institute of Science and Technology, June 2015.
26. (Hüseyin Aksoy) ZVS Phase Shifted PWM Topologies; Gazi University, Institute of Science and Technology, Sept 2015.
27. (Sinan Yılmaz) Servo Drive Design for Permanent Magnet Motors; Gazi University, Institute of Science and Technology, June 2016.
28. (Furkan Öztürk) Wireless power transfer circuit prototype design for electrical vehicles, Yıldırım Bayazıt University, Institute of Science and Technology, 2017 (Co-advisor)
29. (Ozgür Bulut) GAN FET Based Active Clamp Forward DC-DC Converter Design, Gazi University, Institute of Science and Technology, March 2018.
30. (Ersan Koray Erşan) Analysis and design of LCC compensation topology for contactless power transfer, Gazi University, Institute of Science and Technology, March 2018.
31. (İ. Onur Loraz) A study for simulations of planar transformer based on MLM method and adding common mode noise model to MLM method, Gazi University, Institute of Science and Technology, 2019.
32. (Yusuf Kösesoy) Design and implementation of an FPGA based brushless DC motor controller, Gazi University, Institute of Science and Technology, 2019.
33. (Alican Yengeç) Design and implementation of a foreign conducting object detection system for wireless charging systems, Gazi University, Institute of Science and Technology, 2019.
34. (Cansu Öztürk Yılmaz) Current mode controller design for 300 A inverter type welding machine, Gazi University, Institute of Science and Technology, 2019.
35. (Süleyman Kokundu) SVPWM Based FOC of Brushless DC Motors, Gazi University, Institute of Science and Technology, 2019.

36. (M. Oğuz Günbaz) Quartz Closed Loop Capacitive Accelerometer Readout Circuit Design and Implementation, Gazi University, Institute of Science and Technology, 2019.
37. (Bahanur Gülcan) Voltage multiplier circuit design and implementation for energy harvesting from radio frequency signals, Gazi University, Institute of Science and Technology, 2020.
38. (Mehmet Kubilay) Development of a Graphical Interface for the Design of LLC Resonant DC-DC Converters, Gazi University, Institute of Science and Technology (ASELSAN Academy), 2020.
39. (Halil Kavak) Design and Implementation of a High Gain DC-DC Converter for Capacitor Charging, Gazi University, Institute of Science and Technology (ASELSAN Akademi), 2020.
40. (Showrov Rahman) Design, Analysis, and Simulation of an Isolated High Voltage DC Power Supply Based on Modular Converter and Cockcroft-Walton Voltage Multiplier Topology, Gazi University, Institute of Science and Technology, 2020.
41. (Enes Turan) Design and implementation of an analog controller for a novel DC-DC converter, Gazi University, Institute of Science and Technology, 2021. (Co-Advisor)
42. (M. Akif Ozdemir), Design of Four-Quadrant Rectifier for Cathodic Protection Systems, Gazi University, Institute of Science and Technology, 2021.

Other Academic Activities

1. Report: Sezai Dincer, **M.T. Aydemir**; Energy Report, State Statistics Institute, Eastern Anatolian Region Project, Ankara 2001
2. Chapter in Encyclopedia: Sezai Dincer, **M.T. Aydemir**; Superconducting Inductive Coils, Encyclopedia of Life Support Systems (www.eolss.net)
3. Chapter in Encyclopedia: Sezai Dincer, **M.T. Aydemir**; Electric Energy Storage, (www.eolss.net)
4. Chapter in Encyclopedia: **M.T. Aydemir**, Yalcin Gogus; Spinning Reserve, (www.eolss.net)
5. Member in the Conference Organization Committee; Third International Conference of Electrical Machines and Power Electronics (ACEMP), 27-29 May 2001, Kusadasi, Izmir, TURKEY
6. Member in the Conference Organization Committee; Fifth International Conference of Electrical Machines and Power Electronics (ACEMP), 27-29 May 2007, Bodrum, TURKEY.
7. Member in the Conference Organization Committee; Sixth International Conference of Electrical Machines and Power Electronics (ACEMP), 27-29 Sept 2011, İstanbul.

Editorship

Gazi University Journal of Science (2005 -2019) Editorial Board Member / Field Editor
Gazi University, Faculty of Eng. and Architecture Journal (2006-2019) Editorial Board Member / Field Editor

Turkish Journal of Electrical and Computer Engineering (2016 - 2021) Editorial Board Member,

EMO Academic Journal (2018 -) Editorial Board Member, Editor in Chief (2021 -)

Other Duties

Director, Graduate School, Kadir Has University, (2021-)

Dept. Chairman (Gazi U.) (Dec. 2012 - July 2013) (2017 - 2020)

Member, Gazi University Education Committee (2018 - 2020)

Assistant Director, GU Clean Energy Research and Application Center (2005 - 2020)

Head, Computer Science Division of Institute of Information; 2014-2016

Vice Dept. Chairman (1997-98, 2002-04, 2007-2009)

Faculty Administrative Committee Member (1998-2001, 2004-2009)

Dept. Accreditation Committee, Head (2003-2018)

LdV Program Coordinator for the Faculty of Eng. And Arch. (2004- 2006)

Gazi University Strategic Planning Committee Member (2005-2008)