Hasan KÖMÜRCÜGİL

1) PERSONAL INFORMATION:

Date and Place of Birth: 22/02/1965, Kilitkaya-N. Cyprus

Nationality: Turkish

Gender: Male

Institution: Eastern Mediterranean University

Faculty: Engineering

Department: Computer Engineering

Academic Title: Professor Dr.

Employment Status: Full-time

Languages: Turkish (native), English (fluent)

Permanent Address: Kemal Göksan Sok., No. 15, Y. Boğaziçi-G. Mağusa-N. Cyprus

E-mail: hasan.komurcugil@emu.edu.tr

2) RESEARCH INTERESTS

Power Electronics, Control Systems (Sliding Mode Control, Fuzzy Logic Control, Hysteresis Control, Passivity-Based Control), Digital Signal Processing

3) EDUCATION

Qualification	Major Field of Study	Degree Awarding Institute	Date
Ph.D.	Power Electronics	Eastern Mediterraean University	1998
M.Sc.	Digital Signal Processing	Eastern Mediterraean University	1991
B.Sc.	Electrical and Electronic Eng.	Eastern Mediterraean University	1989

4) <u>EMPLOYMENT</u>

Academic Experience

Rank	Department	Institution	Years
Professor Dr.	Computer Engineering	EMU	2008 – present
Associate Professor Dr.	Computer Engineering	EMU	2002-2008
Assistant Professor Dr.	Computer Engineering	EMU	1998-2002
Assistant Lecturer	Electrical and Electronics	EMU	1997-1998
Research Assistant	Electrical and Electronics	EMU	1993-1997
Research Assistant	Electrical and Electronics	EMU	1989-1991*

^{*} Military Service (1991-1993)

Administrative Position

Institution	Job Title	Year
YODAK	Board Member of Higher Education, Planning,	2010- present
	Evaluation, Accreditation and Coordination Council in N. Cyprus	
EMU	Chairman, Computer Engineering Department	2004 - 2010

5) ACTIVITIES

Teaching

Courses taught in the last five Academic Years:

Course Code	Title	Credit hours	Academic Year
CMPE324	Computer Architecture and C	Org. 4	2012-2013 Spring
CMPE226	Electronics for Computer En	ıg. 4	2012-2013 Spring
CMPE426	Digital Signal Processing	4	2012-2013 Fall
CMPE324	Computer Architecture and C	Org. 4	2012-2013 Fall

CMPE226	Electronics for Computer Eng.	4	2011-2012 Spring
CMPE108	Algorithms and programming	4	2011-2012 Spring
CMPE426	Digital Signal Processing	4	2011-2012 Fall
CMPE226	Electronics for Computer Eng.	4	2011-2012 Fall
CMPE224	Digital Logic Systems	4	2010-2011 Spring
CMPE226	Electronics for Computer Eng.	4	2010-2011 Spring
CMPE324	Computer Architecture and Org.	4	2010-2011 Fall
CMPE226	Electronics for Computer Eng.	4	2010-2011 Fall
CMPE226	Electronics for Computer Eng.	4	2009-2010 Spring
CMPE226	Electronics for Computer Eng.	4	2009-2010 Fall
CMPE226	Electronics for Computer Eng.	4	2008-2009 Spring
CMPE326	Microprocessors	4	2008-2009 Fall
CMPE226	Electronics for Computer Eng.	3	2008-2009 Fall

Graduate Student Supervision

M.Sc.

- 1) "Gain Scheduling and Rule Base Construction Methods for Fuzzy Logic Controllers" by Sinem Özsuer, 2001.
- **2)** "Design of Single-Input Fuzzy Logic Controllers Based on Rule Base Reduction Methods" by Ferhun Yorgancıoğlu, 2002.
- 3) "A Case Study: A Comparative Study for Self-Tuning and Conventional Fuzzy Logic Control" by Dilek Amir, 2004.
- 4) "A Moving Object Detection and Tracking System" by Öncü Altuntaş, 2005.
- 5) "Real-Time Noise Cancellation Using Adaptive Algorithms" by Alaa Ali Hameed, 2012.

- 6) "Real-Time Implementation of Adaptive Line Enhancer" by Ahmed Darghaoth, 2013.
- 7) Double-Band Hysteresis Current Control Method for Three-Phase Shunt Active Power Filters" by Farshid Allahakbari, 2013.
- 8) "Group Delay Reduction Methods in FIR Digital Filters" by Hala Haseeb Al-Ani, 2013.
- 9) "Digital Nonrecursive FIR Filter Design Using Exponential Window" by Ayman Nashwan Al-Dabbagh, 2013.
- **10**) "Design and Control of a Robot Arm Using PIC16F877A" (Ongoing) by Arian Faravar.

<u>Ph.D.</u>

- 1) "Fuzzy-Like Control Strategies Based On Single-Input Moving Sliding Surfaces" by Ferhun Yorgancıoğlu, 2008.
- 2) "Time-Varying Sliding-Coefficient-Based Terminal Sliding Mode Control Methods for Underactuated Fourth-Order Nonlinear Systems" by Hüsnü Bayramoğlu, 2013.

Graduate Student Co-supervision

M.Sc.

- 1) "DSP Analysis of the Finite Difference Time Domain (FDTD) Method" by Meltem Yağlı, 2001.
- 2) "Practical Approach to Membership Function Shape Analysis, Rule Base Completion and Simplification in Fuzzy Models" by Roustem Nizamiev, 2002.

Membership of Graduate Theses Committees

EMU

- 1) "Study and Survey of Electronic Ballast Topologies for the Fluorescent Lamp" by Shahzad Ahmed (MSc)
- 2) "Speed Estimation Using Elman Neural Network and Development of a Neurocontroller for Induction Motor Servo Applications" by Raja Shahid Toqeer (PhD)
- 3) "Speech Codec Detector Based Speaker Verification System in a Multi-Coder Environment" by Cem Ergun (PhD)
- 4) "Analysis of Fuzzy Time Series Approaches to Forecasting-Case Studies" by Melike Sah (MSc)
- 5) "Efficient Parallel Algorithm for Modelling Open Region Finite Difference Time Domain Grids" by Oyku Akaydin (PhD)

6) "Concurrent Path Construction and Global Map Building Using a Novel Look-Ahead Strategy" by Mehtap Kose Ulukok (PhD)

- 7) "A Comparison of Fuzzy Functions with LSE and TS-Fuzzy Modeling Methods in Modeling Uncertain Datasets" by Baharak Ahmaderaghi (MSc)
- 8) "Symbolic Symbolic Kinematics and Dynamics Modeling of a Four Wheel Mobile Inverted Pendulum" by Asemeh Pousti (MSc)
- 9) "Biomedical Named Entity Recognition from Text using a Vote Based Multiple Classifier System" by Nazife Dimililer (PhD)
- 10) "Performance of Deferred and Forward Shading Under Different Lighting Conditions" by Alexandr Polisciuc (MSc)
- 11) "Functional Magnetic Resonance Image (FMRI) Based Brain Activity Classification "by Mehran Sahandi Far (MSc)
- 12) "Text Categorization Using Statistical Learning Techniques" by Zafer Erenel (PhD)
- 13) "Disturbance Estimator Based Predictive Current Control of Grid-Connected Inverter" by Ahmet Samawi Ghthwan Al-Khafaji (MSc)
- 14) "Sliding Mode Control Applied to UPS Inverter using Norm of the State Error" by Hamza A.M. Makhamreh (MSc)
- 15) "Modeling and Simulation of the Controllable Network Transformers" by Opeyemi Kazeem Oyelami (MSc)

External

- 1) "Implementation of Single Stage Line Interactive Multilevel Inverter for Renewable Energy Sources with MPPT Capability" by Saban Ozdemir (PhD)
- 2) "Intelligent Recognition and Classification of Three Cardiac Conditions Using ECG Signals" by Ali Isin (MSc)

Consultancy

Currently, I am consultant of the SINE ENERGY Company located in Ankara, Turkey. This Company is manufacturing various power electronics equipment based on latest technology.

Other Activities

a) Senate, Institute of Graduate Studies and Research Council, Faculty Council, Faculty Executive Board and Other Committe Memberships

Senate (2004-2010)

Engineering Faculty Executive Board (2004-2010)

Engineering Faculty Council (2004-2010)

Institute of Graduate Studies and Research Council (2004-2010)

Publications Committee, Faculty of Engineering (2001-2004)

Faculty Search Committee (2003-2010)

Summer Training Committee (1999-2000)

Laboratory Facilities Committee (1998-2003)

b) Service as a Reviewer

Journals

IEEE Transactions on Industrial Electronics (SCI)

IEEE Transactions on Power Electronics (SCI)

IEEE Transactions on Systems, Man and Cybernetics, Part A (SCI)

IEEE Transactions on Circuits and Systems, Part II (SCI)

IEEE Transactions on Instrumentation & Measurement (SCI)

IEEE Transactions on Power Delivery (SCI)

IET Control Theory and Applications (SCI)

Elsevier- Fuzzy Sets and Systems (SCI)

Elsevier- Energy Conversion and Management (SCI Expanded)

Springer- Electrical Engineering (SCI)

Turkish Journal of Electrical Engineering and Computer Science (SCI Expanded)

c) Service as a Session Chair in Conferences

30th Annual Conference of the IEEE Industrial Electronics Society (IECON2004), KOREA.

33rd Annual Conference of the IEEE Industrial Electronics Society (IECON2007), TAIWAN.

2nd Symposium on Network and Information Security, 2008, TRNC

35th Annual Conference of the IEEE Industrial Electronics Society (IECON2009), PORTUGAL.

19th IEEE International Symposium on Industrial Electronics (ISIE2010), ITALY.

20th IEEE International Symposium on Industrial Electronics (ISIE2011), POLAND.

12nd EEEIC International Conference on Environment and Electrical Engineering, POLAND.

d) Citation

Published journal and conference papers have received more than 455 citations to date (source: http://scholar.google.com).

h-index (According to Google Scholar): 10

h-index (According to Web of Science): 8

6) PROFESSIONAL ACTIVITIES/MEMBERSHIPS

 European Association for Quality Assurance in Higher Education (ENQA) - Working Group Member on Quality Assurance and Excellence in Higher Education. (2011-present)

I represent YODAK in this group. The group met several times to discuss the concept of excellence in higher education. The next meeting will be held on January 2014 in Paris. The output of this meeting will be sent to the ENQA Board for further evaluation.

• Chairman at the Department of Computer Engineering, Eastern Mediterranean University, Gazimağusa, TRNC. (2004-2010)

I was the chairman during the ABET 2000 outcome-based evaluation process in 2010. I played active role in the accreditation activities of the department especially in the implementation of the ABET criteria for program evaluation and the assessment and evaluation processes.

- ICSCCW 2009 International Conference on Soft Computing, Computing with Words and Perceptions in System Analysis, Decision and Control, Conference co-chairman.
- Institutional Evaluation of the Canterbury Campus of Girne American University located in Kent, UK. 2012

I was representing YODAK in this process.

• Institute of Electrical and Electronics Engineers (IEEE), Senior Member

Industrial Electronics Society

- Cyprus Turkish Chamber of Electrical Engineers, *Member*
- American Society for Engineering Education (ASEE), Member

7) **PUBLICATIONS**

Journal Papers

1) Hüsnü Bayramoğlu and Hasan Kömürcügil, "Time-Varying Sliding-Coefficient-Based Terminal Sliding Mode Control for a Class of Fourth-Order Nonlinear Systems", Springer-Nonlinear Dynamics, Vol. 73, pp. 1645-1657, 2013.[SCI]

- 2) Hüsnü Bayramoğlu and Hasan Kömürcügil, "Nonsingular Decoupled Terminal Sliding-Mode Control for a Class of Fourth-Order Nonlinear Systems", Elsevier-Communications in Nonlinear Science and Numerical Simulation, Vol. 18, No. 9, pp. 2527-2539, September 2013.[SCI-Expanded]
- 3) **Hasan Kömürcügil,** "Non-Singular Terminal Sliding-Mode Control of DC-DC Buck Converters", Elsevier- Control Engineering Practice, Vol. 21, No. 3, pp. 321-332, March 2013.[SCI-Expanded]
- 4) **Hasan Kömürcügil,** "Adaptive Terminal Sliding-Mode Control Strategy for Dc-Dc Buck Converters", Elsevier- ISA Transactions, Vol. 51, No. 6, pp. 673-681, November 2012.[SCI-Expanded]
- 5) **Hasan Kömürcügil,** "Rotating Sliding Line Based Sliding Mode Control for Single-Phase UPS Inverters", IEEE Transactions on Industrial Electronics, Vol. 59, No. 10, pp. 3719-3726, October 2012. [SCI]
- 6) Hasan Kömürcügil, "Integral Sliding-Mode-Based Current-Control Strategy for Single-Phase Current-Source Inverters", Springer-Verlag, Electrical Engineering, Vol. 93, No. 3, pp. 127-136, September 2011. [SCI]
- 7) Ferhun Yorgancıoğlu and Hasan Kömürcügil, "Decoupled Sliding-Mode Controller Based on Time-Varying Sliding Surfaces for Fourth-Order Systems" Elsevier- Expert Systems with Applications, Vol. 37, No. 10, pp. 6764-6774, October 2010. [SCI-Expanded]
- 8) **Hasan Kömürcügil,** "Steady-State Analysis and Passivity-Based Control of Single-Phase PWM Current-Source Inverters", IEEE Transactions on Industrial Electronics, Vol. 57, No. 3, pp. 1026-1030, March 2010.[SCI]
- 9) Osman Kükrer, Hasan Kömürcügil and Alper Doğanalp, "A Three-Level Hysteresis Function Approach to the Sliding Mode Control of Single Phase UPS Inverters", IEEE Transactions on Industrial Electronics, Vol. 56, No. 9, pp. 3477-3486, September 2009. [SCI]
- 10) **Ferhun Yorgancıoğlu and Hasan Kömürcügil,** "Single-Input Fuzzy-Like Moving Sliding Surface Approach to the Sliding Mode Control", Springer-Verlag, Electrical Engineering, Vol. 90, No. 3, pp. 199-207, February 2008. [SCI]
- 11) Hasan Kömürcügil and Osman Kükrer, "Globally Stable Control of Three-Phase Three-Wire Shunt Active Power Filters", Springer-Verlag, Electrical Engineering, Vol. 89, No.5, pp. 411-418, May 2007. [SCI]
- 12) Hasan Kömürcügil and Osman Kükrer, "A New Control Strategy For Single-Phase Shunt Active Power Filters Using a Lyapunov Function", IEEE Transactions on Industrial Electronics, Vol. 53, No. 1, pp. 305-312, February 2006. [SCI]
- 13) Osman Kükrer, Hasan Kömürcügil and N. Süha Bayındır, "Control Strategy for Single-Phase UPS Inverters", IEE Proceedings on Electric Power Applications, Vol. 150, No. 6, pp. 743 -746, November 2003. [SCI]
- 14) Hasan Kömürcügil and Osman Kükrer, "Lyapunov-Based Control Strategy for Power-Factor Preregulators", IEEE Transactions on Circuits and Systems, Part I, Vol. 50, No. 9, pp. 1226 -1229, September 2003. [SCI]

15) Osman Kükrer and Hasan Kömürcügil, "Variable Sampling Frequency PWM Waveforms", IEEE Power Electronics Letters, Vol. 1, No. 1, pp. 14-16, March 2003. [Non-SCI]

- 16) Hasan Kömürcügil and Osman Kükrer, "Control Strategy for Single-Phase PWM AC/DC Voltage-Source Converters Based on Lyapunov's Direct Method", International Journal of Electronics, Vol. 87, No. 12, pp. 1485 -1498, December 2000. [SCI]
- 17) **Hasan Kömürcügil and Osman Kükrer**, "A Novel Current-Control Method for Three-Phase PWM AC/DC Voltage-Source Converters", IEEE Transactions on Industrial Electronics, Vol. 46, No. 3, pp. 544-553, June 1999. [SCI]
- 18) Osman Kükrer and Hasan Kömürcügil, "Deadbeat Control Method for Single-Phase UPS Inverters with Compensation of Computation Delay", IEE Proceedings on Electric Power Applications, Vol. 146, No.1, pp. 123-128, January 1999. [SCI]
- 19) **Hasan Kömürcügil and Osman Kükrer**, "*Lyapunov-Based Control for Three-Phase PWM AC/DC Voltage-Source Converters*", IEEE Transactions on Power Electronics, Vol. 13, No. 5, pp. 801-813, September 1998. [SCI]
- 20) Osman Kükrer and Hasan Kömürcügil, "Control Strategy for Single-Phase PWM Rectifiers", IEE Electronics Letters, Vol. 33, No. 21, pp. 1745-1746, October 1997. [SCI]

Conference Papers

- 1) Hasan Kömürcügil, "Hysteresis Current-Control Strategy for Single-Phase Half-Bridge Shunt Active Power Filters" in Proceedings of 12th International Conference on Environment and Electrical Engineering (EEEIC2013), 5-8 May 2013, Wroclaw, POLAND.
- 2) Hüsnü Bayramoglu and **Hasan Kömürcügil,** "Time-Varying Sliding-Coefficient-Based Approach to the Decoupled Terminal Sliding Mode Controller Design", in Proceedings of the 17th International Conference on Methods and Models in Automation and Robotics (MMAR2012), 27- 30 August 2012, pp. 481-486, Miedzyzdroje, POLAND.
- 3) **Hasan Kömürcügil,** "A New Control Strategy for Single-Phase PWM Boost-Type Inverters", in Proceedings of the 37th Annual Conference of the IEEE Industrial Electronics Society (IECON2011), 7-10 November 2011, Melbourne, AUSTRALIA.
- 4) Hasan Ali Bicak and **Hasan Kömürcügil,** "Quality Standards For Distance Education in North Cyprus", in Proceedings of the European Association for Distance Teaching Universities (EADTU) Annual Conference, 2- 4 November 2011, Eskişehir, TURKEY.
- 5) **Hasan Kömürcügil,** "Fast Terminal Sliding Mode Control for Single-Phase UPS Inverters" in proceedings of the IEEE International Symposium on Industrial Electronics (ISIE2011), 27-30 June 2011, pp. 277-282, Gdansk, POLAND.
- 6) Hasan Kömürcügil, "A New Sliding Mode Control for Single-Phase UPS Inverters Based On Rotating Sliding Surface" in proceedings of the IEEE International Symposium on Industrial Electronics (ISIE2010), 3-7 July 2010, pp. 579-584, Bari, ITALY.
- 7) Hasan Kömürcügil, "Integral Sliding Mode Control of a Single-Phase Current-Source Inverter", in Proceedings of the 35th Annual Conference of the IEEE Industrial Electronics Society (IECON'09), November 2009, pp. 1599-1604, Porto, PORTUGAL.

8) Hasan Kömürcügil, "Nonlinear Control Strategy for Single-Phase PWM Current-Source Inverters", in Proceedings of the 35th Annual Conference of the IEEE Industrial Electronics Society (IECON'09), November 2009, pp. 679-684, Porto, PORTUGAL.

- 9) Osman Kükrer and **Hasan Kömürcügil,** "A New Control Strategy for Three-Phase Three Wire Shunt Active Power Filters" in proceedings of the IEEE International Symposium on Industrial Electronics (ISIE2008), June/July 2008, pp. 896-901, Cambridge, UK.
- 10) **Hasan Kömürcügil** and Osman Kükrer, "Control Strategy for Three-Phase Current-Source Inverters Based on Lyapunov's Direct Method" in proceedings of the IEEE International Symposium on Industrial Electronics (ISIE2008), June/July 2008, pp. 890-895, Cambridge, UK.
- 11) **Hasan Kömürcügil,** "Passivity-Based Control of Single-Phase PWM Current-Source Inverters", in Proceedings of the 33rd Annual Conference of the IEEE Industrial Electronics Society (IECON'07), November 2007, pp. 545-550, Taipei, TAIWAN.
- 12) Ferhun Yorgancıoğlu and **Hasan Kömürcügil,** "Fuzzy Moving Sliding Surface Approach to the Hierarchical Sliding Mode Control", in Proceedings of the 33rd Annual Conference of the IEEE Industrial Electronics Society (IECON'07), November 2007, pp. 659-664, Taipei, TAIWAN.
- 13) Ferhun Yorgancıoğlu and **Hasan Kömürcügil,** "Fuzzy Sliding-Mode Control for Second-Order Nonlinear Systems", in Proceedings of the 4th International Symposium (FAE), November 2006, pp. 613-619, Gemikonağı, Lefke, TRNC.
- 14) Osman Kükrer, **Hasan Kömürcügil** and Alper Doğanalp, "Sliding Mode Control of Single-Phase UPS Inverters Using a Three-Level Hysteresis Switching Function", in Proceedings of the 32nd Annual Conference of the IEEE Industrial Electronics Society (IECON'06), November 2006, Vol. 1, pp. 331-335, Paris, FRANCE.
- 15) Hasan Kömürcügil, Osman Kükrer and Alper Doğanalp, "Optimal Control for Single-Phase UPS Inverters Based On Linear Quadratic Regulator Approach", in Proceedings of International Symposium on Power Electronics, Electrical Drives, Automation and Motion (SPEEDAM 2006), May 2006, pp. 1137-1142, Taormina, ITALY.
- 16) **Hasan Kömürcügil,** "A PI-type Self-Tuning Fuzzy Logic Controller for Dc-Dc Boost Converters", in Proceedings of the 30th Annual Conference of the IEEE Industrial Electronics Society (IECON'04), November 2004, Vol. 1, pp. 209-214, Busan, KOREA.
- 17) Dilek Amir and **Hasan Kömürcügil,** "A New Self-Tuning Method for Fuzzy Logic Controllers Using One Dimensional Rule Base" in Proceedings of 13th Turkish Symposium on Artificial Intelligence and Neural Networks (TAINN' 2004), June 2004, pp.165-172, Izmir, TURKEY.
- 18) **Hasan Kömürcügil** and Osman Kükrer, "A Robust Current Control Strategy For Single-Phase Shunt Active Power Filters", in Proceedings of the 29th annual conference of the IEEE Industrial Electronics Society (IECON'03), November 2003, pp. 2277-2281, Roanoke, Virginia, USA.
- 19) **Hasan Kömürcügil** and Ferhun Yorgancıoğlu, "Rule Base Reduction Method for Fuzzy PI Controllers Based on Direct Combination of Input Variables", in Proceedings of 11th Turkish Symposium on Artificial Intelligence and Neural Networks (TAINN' 2002), June 2002, pp. 21-26, Istanbul, TURKEY.
- 20) **Hasan Kömürcügil** and Turgay Çelik, "Dc Kıyıcılar İçin Bir-Boyutlu Kural Tabanı Kullanan Bir Bulanık Mantık Denetleyici Tasarımı", in Proceedings of 10th Signal

- Processing and its Applications (SIU'2002), June 2002, pp. 772-777, Denizli, TURKEY. (in Turkish)
- 21) **Hasan Kömürcügil** and Sinem Özsuer, "A New Design Procedure and a Tuning Method for Fuzzy Proportional-Derivative Plus Conventional Integral Controllers", in Proceedings of 10th Turkish Symposium on Artificial Intelligence and Neural Networks (TAINN' 2001), June 2001, pp. 144-153, Gazimağusa, TRNC.
- 22) **Hasan Kömürcügil** and Osman Kükrer, "Akım Denetimli Tek Faz Bir Aktif Güç Süzgeci", in Proceedings of 9th Signal Processing and its Applications (SIU'2001), April 2001, pp. 421-426, Gazimağusa, TRNC. (in Turkish)
- 23) **Hasan Kömürcügil,** "Source Voltage Sensorless Control Strategy for High Power Factor PWM Converters", in Proceedings of 4th IASTED International Conference on Power and Energy Systems (PES 2000), September 2000, pp. 363-368, Marbella, SPAIN.
- 24) Osman Kükrer, Kadri Hacıoğlu, and **Hasan Kömürcügil,** "*Tek Faz Bir Kesintisiz Güç Kaynağının Bulanık Mantık Denetimi*", in Proceedings of 7th Signal Processing and its Applications (SIU'99), June 1999, pp. 437-442, Ankara, TURKEY. (in Turkish)
- 25) Hüseyin Bilgekul and **Hasan Kömürcügil,** "*Uyarlamalı Süzgeçlerle Geniş Bandlı Gürültü Ortamında İşaret Sezme ve Girişim Bastırma*", in Proceedings of 4th Electrical Engineering National Congress, September 1991, pp. 649-652, İzmir, TURKEY. (in Turkish)

Other Publications

- 1) Melike Şah, and **Hasan Kömürcügil,** "Design of Digital Signal Function Generator Using PIC16F84A", Journal of Cyprus Turkish Chamber of Electrical Engineering (EMOBİLİM), Vol. 3, No.10, pp. 15-19, March 2003. (in Turkish)
- 2) Mahmut Kısacık, and **Hasan Kömürcügil,** "Control of Traffic Lights and Down Counter Using a Microprocessor", Journal of Cyprus Turkish Chamber of Electrical Engineering (EMOBİLİM), Vol. 3, No.11, pp. 17-21, May 2003. (in Turkish)
- 3) **Hasan Kömürcügil** and Osman Kükrer, "*Tek Faz Aktif Güç Süzgeci*", Enerji, Elektrik, Aydınlatma, Elektronik ve Otomasyon Mühendisliği Dergisi, Sayı 248, pp. 102-105, Ocak 2010. (in Turkish)