

# Khaled E. Addoweesh

## Publications

**K. Ad'doweesh**, "Microprocessor Based AC voltage control using GTO thyristors", Proc. of ISMM Inter. Sympos. Mini and Micro and Their Applications, Lugano, Switzerland, June 1987, pp. 83-86.

**K. E. Addoweesh**, W. Shepherd and L. Hulley, "Induction Motor Control Speed Control Using Microprocessor Based PWM Inverter", IEEE Transactions on Industrial Electronics, Vol.IA-36, No.4, Nov. 1989, pp.516-522.

**Ad'doweesh, K.E.**, Mohamadein, A.L., and Al-Ghalban, H.A., "Microprocessor Based Controller for AC Chopper", Proc. of the 11th National Computer Conf., Dhahran, Mar 1989, pp. 483-493.

**K. Ad'doweesh**, M. S. Simiai and S. E. Haque "Power Factor Improvement of Induction Motor Using Microprocessor Controlled FC-TCR Compensator", Journal Engineering Sciences, King SAUD University:, Vol. 15,No. 2, 1989.

Mohamadein, A.L. and **Ad'doweesh, K.E.**, "Evaluation of the Performance of Chopper-Type AC Voltage Controller", International Journal of Electronics, Vol.67, No.4, pp. 669-683, Oct 1989,.

**K. Ad'doweesh**, "Microprocessor Based Power Factor Improvement of Induction Motor", Journal of King SAUD University: Engineering Sciences, Vol. 2, No. 1, 1990.

**Ad'doweesh, K.E.**, and Mohamadein, A.L., "Microprocessor-Based Harmonic Elimination in Chopper Type AC Voltage Regulators", IEEE Transactions on Power Electronics, Vol.5, No.2, April 1990, pp. 191-200.

**Ad'doweesh, K.E.**, Mohamadein, A.L., and Al-Ghalban, H.A., "Time-Ratio Control of Chopper Type AC Voltage Regulators", Journal of King SAUD University, Vol. 3, Eng. Sci(I), pp. 19-43, 1991.

**K. Addoweesh**, " An Exact Analysis of an Ideal Static AC Chopper" Int.J. Electronics, England, London, Vol. 75, No. 5, pp.999-1013, 1993

**K. E. Addoweesh** and M. S. Al-Khalidi, " AC Chopping Technique With Phase and Voltage Control" IEEE Internat. Symp. on Ind. Electronics ISIE'93 Conf. Rec., Budapest, Hungray, pp. 684-688, June 1993.

A. L. Mohamadein and **K. A. Addoweesh**, "Harmonic Minimization in a Chopper-Type AC Voltage Controller" , Journal of King SAUD University, Vol. 6, Eng. Sci(2), pp. 199-216, 1994.

**Khaled E. Addoweesh**, "Dynamic Model of an Induction Motor Using PSPICE"[arabic] Proc. of the 4th Saudi Engineering Conf., Jeddah, pp.49-56, Nov 1995

**Khaled E. Addoweesh**, " AC Chopper with Harmonic Elimination and Phase Control", European Trans on Power Eng., Germany, Vol.7, No. 2, pp.115-120, Mar/Apr 1997

**K. E. Addoweesh**, "Microprocessor Controlled AC Choppers", Research Report No. E07/07/14, Research Center, College of Eng., KSU, 1998

**K. Addoweesh**, "Time Ratio Controlled Three-Phase AC Chopper", Journal of King SAUD University, Vol. 11, Eng. Sci.(2),pp. 233-250, 1999.

**Khaled E. Addoweesh**, "Dynamic Model of Saturated Induction Motor Using PSPICE" [arabic] Journal of King SAUD , Vol. 11, Eng. Sci.(2),pp. 29-48, 1999.

S. Foda, M. Abdel-Rahman, and **K. Addoweesh**, " Fault Detection in Large AC Machines", The 13<sup>th</sup> International Conf. On Microelectronics, Rabat, Morocco, pp. 193-196, Oct. 29-31, 2001.

M. A. Abdel-Halim and **K. Addoweesh**, " Control of Single Phase Induction Motor Using AC Chopper" IASTED International Conf. On Applied Simulation and Modeling, Banff, Canada, July 24-26, 2000.

**K. E. Addoweesh**, "Total Harmonic Distortion Minimization in a Three-Phase AC Chopper" accepted for publication in Journal of King Abdulaziz University [Engineering Sciences]

Hadeed Ahmed Sher, Zahir J Paracha, Yasin Khan, **Khaled Addoweesh**, " Fault Analysis of an Inverter Fed Induction Motor Under dc Link Capacitor Short Circuit Condition", 5th global conference on Power Control and optimization 2011 ( PCO 2011), 1-3/6/2011

Umar Bawah, **Khaled E. Addoweesh**, Ali M. Eltamaly, " Economic Modeling of Site-Specific Optimum Wind Turbine for Electrification Studies", International Conference on Energy, Environment and Sustainable Development (EESD 2011), Shanghai, China, Oct. 2011.

Umar Bawah, **Khaled E. Addoweesh**, Ali M. Eltamaly, " Economic Modeling of Site-Specific Optimum Wind Turbine for Electrification Studies ", Advanced Materials Research, Vols. 347-353 (2012) pp. 1973-1986, Oct. 2011,  
<http://www.scientific.net/AMR.347-353.1973>  
impact factor: 0.158 **SNIP** ([Source Normalized Impact per Paper](#))

Abdullrahman A. Al Shamma'a, **Khaled E. Addoweesh**, Ali M. Eltamaly, " Optimum Wind Turbine Site Matching for Three Locations in Saudi Arabia", 2011 International Conference on Energy, Environment and Sustainable Development (EESD 2011), Shanghai, China, Oct. 2011.

Abdullrahman A. Al-Shamma'a, **Khaled E. Addoweesh**, Ali Eltamaly, " Optimum Wind Turbine Site Matching for Three Locations in Saudi Arabia ", Advanced Materials Research, Vols. 347-353 (2012) pp. 347-353, Oct. 2011,  
<http://www.scientific.net/AMR.347-353.2130>  
impact factor: 0.158 **SNIP** ([Source Normalized Impact per Paper](#))

Hadeed Sher, **Khaled Addoweesh**, Yasin Khan, Effect of DC Link Capacitor Failure on Free Wheeling Diodes of Inverter Feeding an Induction Motor, Workshop on Power Electronics for Industrial Applications and Renewable Energy Conversion PEIA2011, 3-4/11/2011.

Abdullah Noman, **Khaled Addoweesh**, Hayder Algalban, Maximum Power Point Tracking of Photovoltaic Systems Using Two Different Methods, Workshop on Power Electronics for Industrial Applications and Renewable Energy Conversion PEIA2011, 3-4/11/2011.

Abdullah M. Noman, **Khaled E. Addoweesh**, and Hussein M. Mashaly , A Fuzzy Logic Control Method for MPPT of PV Systems, IECON 2012 - 38th Annual Conference on IEEE Industrial Electronics Society, Montreal Canada from 25 to 28 October 2012

Sher, Hadeed Ahmed; **Addoweesh, Khaled E**; Khan, Yasin; Kashif, Syed Abdul Rahman; , "Performance of inverter fed induction motor under open circuit DC link capacitor," IECON 2012 - 38th Annual Conference on IEEE Industrial Electronics Society , vol., no., pp.651-655, 25-28 Oct. 2012, Montreal Canada. [link](#)

Noman, Abdullah M., **Addoweesh, Khaled E.**; Mashaly, Hussein M.; , "A fuzzy logic control method for MPPT of PV systems," IECON 2012 - 38th Annual Conference on IEEE Industrial Electronics Society, pp.874-880, 25-28 Oct. 2012, Montreal Canada. [link](#)

Abdurahman alshamaa, **Khaled E. Addoweesh**, "Optimum Sizing of Hybrid PV/Wind/Battery/Diesel System Considering Wind turbine Parameters Using Genetic Algorithm", the 2012 IEEE International Conference on Power and Energy (PECON 2012) 2 - 5 December 2012.

Hadeed Sher, **Khaled Addoweesh**, "Power storage options for hybrid electric vehicles - A survey", Journal of Renewable and Sustainable Energy, 4, 052701 (2012), ISI impact factor: 1.239, [link](#)

Hadeed Sher, **Khaled Addoweesh**, "Micro-Inverters - Promising Solutions in Solar Photovoltaics", Energy for Sustainable Development, 16 (2012) 389-400, ISI impact factor: 1.624, [link](#)

Ali F Murtaza, Hadeed Ahmed Sher, Chiaberge M, Boero D, De Giuseppe M and **Khaled E Addoweesh**, "A Novel Hybrid MPPT Technique for Solar PV Applications Using Perturb & Observe and Fractional Open Circuit Voltage Techniques" Proceedings of 15th International Conference on Mechatronics – Mechatronika 2012, Prague, Czech Republic, December 5-7, 2012, p 274-281

Abdullrahman A. Al Shamma'a, **Khaled E. Addoweesh**, "Optimum Wind Turbine Matching with Wind regime in Saudi Arabia", The 15th IEEE STEM conference, Dhahran, Saudi Arabia on Dec. 17-20, 2012

Hadeed Ahmed Sher, **Khaled E Addoweesh**, Yasin Khan, Ali F. Murtaza, "Harmonic Analysis of Inverter fed Induction Motor under faulted DC link Capacitor", The 15th IEEE STEM conference, Dhahran, Saudi Arabia on Dec. 17-20, 2012

Abdullah M. Noman, **Khaled E. Addoweesh**, and Hussein M. Mashaly, "DSPACE Real-Time Implementation of MPPT-Based FLC Method," International Journal of Photoenergy, vol. 2013, Article ID 549273, 11 pages, 2013.  
doi:10.1155/2013/549273, ISI impact factor: 1.769  
<http://www.hindawi.com/journals/ijp/2013/549273/>

Hadeed Ahmed Sher, **Khaled E. Addoweesh** and Yasin Khan (2013). Harmonics Generation, Propagation and Purging Techniques in Non-Linear Loads, An Update on Power Quality, Dr. Dylan Lu (Ed.), ISBN: 978-953-51-1079-8, InTech, DOI: 10.5772/53422. Available from: <http://www.intechopen.com/books/an-update-on-power-quality/harmonics-generation-propagation-and-purging-techniques-in-non-linear-loads>

Ali M. Eltamaly, **Khaled E. Addoweesh**, Umar Bawah, Mohamed A. Mohamed, "New Software for Hybrid Renewable Energy Assessment for Ten Locations in Saudi Arabia "Journal of Renewable and Sustainable Energy 5, 033126 (2013), DOI:10.1063/1.4809791, [link](#), , ISI impact factor: 1.51

Umar Bawah, **Khaled E. Addoweesh**, Ali M. Eltamaly, " Comparative Study of Economic Viability of Rural Electrification Using Renewable Energy Resources versus Diesel Generator Option in Saudi Arabia" J. Renewable Sustainable Energy 5, 042701 (2013), DOI:10.1063/1.4812646, [link](#), ISI impact factor: 1.51

Noman, AM.; Addoweesh, K.E.; Mashaly, H.M., "An intelligent FLC method for tracking the maximum power of photovoltaic systems," *AFRICON, 2013* , vol., no., pp.1,8, 9-12 Sept. 2013

Noman, AM.; Addoweesh, K.E.; Mashaly, H.M., "Simulation and dSPACE hardware implementation of the MPPT techniques using buck boost converter," *AFRICON, 2013* , vol., no., pp.1,9, 9-12 Sept. 2013

Hamadi, Ab.; Rahmani, S.; **Addoweesh, Khaled**; Al-Haddad, K., "A modeling and control of DFIG wind and PV solar energy source generation feeding four wire isolated load," Industrial Electronics Society, IECON 2013 - 39th Annual Conference of the IEEE, pp.7778,7783, 10-13 Nov. 2013

Vahedi, Hani; Al-Haddad, Kamal; Ounejjar, Youssef; **Addoweesh, Khaled**, "Crossover Switches Cell (CSC): A new multilevel inverter topology with maximum voltage levels and minimum DC sources," Industrial Electronics Society, IECON 2013 - 39th Annual Conference of the IEEE, pp.54,59, 10-13 Nov. 2013

Sher, H.A; Murtaza, AF.; Addoweesh, K.E.; Chiaberge, M., "An intelligent off-line MPPT technique for PV applications," *Systems, Process & Control (ICSPC), 2013 IEEE Conference on* , vol., no., pp.316,320, 13-15 Dec. 2013.

Murtaza, AF.; Sher, H.A; Chiaberge, M.; Boero, D.; De Giuseppe, M.; Addoweesh, K.E., "Optimization of the perturb and observe maximum power point tracker for a distributed photovoltaic system," *Multi Topic Conference (INMIC), 2013 16th International* , vol., no., pp.77,82, 19-20 Dec. 2013

Murtaza, AF.; Sher, H.A; Chiaberge, M.; Boero, D.; De Giuseppe, M.; Addoweesh, K.E., "Comparative analysis of maximum power point tracking techniques for PV applications," *Multi Topic Conference (INMIC), 2013 16th International* , vol., no., pp.83,88, 19-20 Dec. 2013

Eltamaly, Ali M., Khaled E. Addoweesh, Umar Bawa, and Mohamed A. Mohamed. "Economic Modeling of Hybrid Renewable Energy System: A Case Study in Saudi Arabia." *Arabian Journal for Science and Engineering* 39, no. 5 (2014): 3827-3839., ISI impact factor: 0.385, [link](#)

Al-Shamma'a A. A. and Addoweesh K. E. (2014), Techno-economic optimization of hybrid power system using genetic algorithm, *Int. J. Energy Res.*, 38; pages 1608–1623, doi: [10.1002/er.3191](#), ISI impact factor: 2.737

Hamadi, A; Rahmani, S.; Al-Haddad, K.; Addoweesh, K., "Micro grid based PMSG feeding isolated loads," Applied Power Electronics Conference and Exposition (APEC), 2014 Twenty-Ninth Annual IEEE, pp.3160,3165, 16-20 March 2014.

Sher, Hadeed Ahmed; Addoweesh, Khaled E; Khan, Yasin; ",Effect of short circuited

DC link capacitor of an AC–DC–AC inverter on the performance of induction motor, Journal of King Saud University-Engineering Sciences, 2014.

Hadeed Ahmed Sher, Ali F Murtaza, Khaled E Addoweesh, Marcello Chiaberge, “A two stage Hybrid Maximum Power Point Tracking Technique for Photovoltaic Applications”, Power and Energy Society General Meeting (PES), 2014 IEEE, 27-31 July 2014

Hadeed Sher, Ali Murtaza, Khaled Addoweesh, Kamal Haddad, Marcello Chiaberge, “A New Irradiance Sensorless Hybrid MPPT Technique for Photovoltaic Power Plants”, accepted in Industrial Electronics Society, IECON 2014 - 40th Annual Conference of the IEEE, Oct. 29 - Nov. 1, 2014.

Syed Arslan Abbas Rizvi, Khaled Addoweesh, Abdelrehman El-Leathy, Hany Al-Ansary, “Sun Position Algorithm for Sun Tracking Applications”, accepted in Industrial Electronics Society, IECON 2014 - 40th Annual Conference of the IEEE, Oct. 29 - Nov. 1, 2014.

#### RESEARCH PROJECTS:

Projects funded by Research Center, College of Engineering:

- Three Phase AC Voltage Regulators
- Control of Single Phase IM
- Dynamic Modeling of AC Motors for Simulation Programs
- AC Chopper Controlled by Microprocessor

Projects funded by National Plan for Science and Technology and Innovation

- PI, Economic Evaluation of Renewable Energy Options for Rural Electrification and Farms in Saudi Arabia, 1/1/2010-30/6/2012, funded by NPST
- CO-PI, Piezoelectric Generator for Self-Powered Micro/Nano devices, 1/1/2011 -30/12/2012, funded by NPST