Alon Kuperman 01/2020

CURRICULUM VITAE

- **Personal Details**

Name: Alon Kuperman
Date and place of birth: 17/06/1977, USSR
Address and telephone number at work: 33/113, 08-6461599.
Address and telephone number at home: Sarig Nahum 41/10, Beer-Sheva.
Email: alonk@bgu.ac.il

- **Education**

B.Sc. 1995 – 1999, Ben-Gurion University of the Negev, Department of Electrical and Computer Engineering.

M.Sc. 1999 – 2001 , Ben-Gurion University of the Negev, Department of Electrical and Computer Engineering.
Name of advisor: Prof. Raul Rabinovici.
Title of thesis: DSP-based control of BLDC motors.

MBA 2000 – 2002, Ben-Gurion University of the Negev, Department of Electrical and Computer Engineering.

Ph.D. 2002 – 2006, Ben-Gurion University of the Negev, Department of Electrical and Computer Engineering.
Name of advisor: Prof. Raul Rabinovici.
Title of thesis: Solid-state excited autonomous induction generators.

Post. Doc. 2007 – 2008, Ben-Gurion University of the Negev, Department of Biomedical Engineering.
Name of advisor: Prof. Ofer Donchin.

Post. Doc. 2008 – 2009, University of Liverpool, Dept. of Electrical Engineering.
Name of advisor: Prof. Qing-Chang Zhong.

- **Employment History**

2016 – 2019 Associate Professor, Ben-Gurion University of the Negev.
2014 – 2016 Associate Professor, Ariel University of Samaria.
2009 – 2014 Senior Lecturer, Ariel University of Samaria.
2007 – 2009 Senior Lecturer, Shamoon College of Engineering.
2006 – 2007 Lecturer, Shamoon College of Engineering.

- **Professional Activities**

(a) Positions in academic administration (department, faculty and university; in the case of mentoring, name of mentee, department, years)
2015 – 2019, Head of Power and Energy Systems Track, BGU.
2009 – 2016, Exemptions Board Chair, AU.
2006 – 2008, Undergraduate Projects Board Chair, SCE.

(b) Professional functions outside universities/institutions
2019, **Technical Committee Member**, Workshop on Control and Modeling for Power Electronics (COMPEL), Toronto, Canada.
2018, **Scientific Committee Member**, International Symposium on Power Electronics, Electrical Drives, Automation and Motion, Amalfi, Italy.

2018, **Session Chair**, 2nd International Conference on the Science of Electrical Engineering, Israel.
2018, **Session Chair**, 59th IEEE International Scientific Conference on Power and Electrical Engineering of Riga Technical University, Riga, Latvia.
2016, **Session Chair**, 1st International Conference on the Science of Electrical Engineering, Israel.
2015, **Session Chair**, 14th World Wind Energy Conference and Exhibition, Israel.
2014, **Session Chair**, 28th Convention of Electrical and Electronics Engineers in Israel.
2013, **Session Chair**, 39th Annual Conference of the IEEE Industrial Electronics Society, Vienna, Austria.
2012, **Session Chair**, 27th Convention of Electrical and Electronics Engineers in Israel.
2011, **Session Chair**, 7th IEEE International Conference-Workshop on Compatibility and Power Electronics, Tallinn, Estonia.
2011, **Session Chair**, 2nd National Conference Advanced Industrial Control, Israel.
2010, **Session Chair**, 26th Convention of Electrical and Electronics Engineers in Israel.
2010, **Session Chair**, 1st National Conference Advanced Industrial Control, Israel.

(c) Significant professional consulting
2011 – 2015, Elbit Systems, Supercapacitor-based energy sources.
2010 – 2015, Ariel RND, Expert.
2014, Uvision, Motor control.
2010 – 2015, NahorLed, LED drivers.
2007 – 2015, MatConsult, Algorithmic development.
2010 – 2011, Israel Aerospace Indistries, Battery packs.
2009 – 2011, Better Place, Fast chargers.
2010 – 2012, Gamatronic, Power converters.
2008, EORD, Signal processing.
2006 – 2007, Versamed, Control of lung ventilators.
2006 – 2007, Audiodent, Signal processing.
2004 – 2007, Omikron Delta, Algorithmic development.

(d) Editor or member of editorial board of scientific or professional journal
Energies, 2017 – 2019, Guest Editor.
Electronics, 2019 – 2020, Guest Editor.

(e) Ad-hoc reviewer for journals
1. COMPEL
2. IEEE Transactions on Education
3. IEEE Transactions on Industrial Electronics
4. IEEE Transactions on Energy Conversion
5. IEEE Journal of Photovoltaics
6. IEEE Transactions on Power Electronics
7. IEEE Transactions on Mechatronics
8. IEEE Journal on Emerging and Selected Topics in Power Electronics
9. IET Power Electronics
10. IET Renewable Power Generation
11. International Journal of Control
12. Nonlinear Dynamics
13. Electrochimica Acta
14. Transportation Research
15. Energies
16. International Journal of Power and Energy Systems

17. International Transactions on Electrical Energy Systems
18. Renewable and Sustainable Energy Reviews
19. Applied Energy
20. Automatica

(f) Membership in professional/scientific societies

1. IEEE Senior Member (Industrial Electronics, Power Electronics, Power&Energy and Industry Applications Societies).
2. The Society of Electrical and Electronic Engineers in Israel.
3. Member of Electric Bus Standardization Board, Standards Institution of Israel

• **Educational activities**

(a) Courses taught

Introduction to Electrical Engineering I (Undergraduate, SCE)
Introduction to Electrical Engineering II (Undergraduate, SCE)
Electric Circuits Theory (Undergraduate, SCE)
Introduction to Control Theory (Undergraduate, SCE)
Introduction to Communications (Undergraduate, SCE)
Signals and Systems (Undergraduate, SCE)
Digital Integrated Circuits (Undergraduate, BGU)
Digital Signal Processing (Undergraduate, BGU)
Digital Communications (Undergraduate, SCE)
Power Electronics (Undergraduate, SCE, AU)
Introduction to Power Supplies (Undergraduate, SCE, AU)
Electric Drive (Undergraduate, SCE, AU, BGU)
Power Systems I (Undergraduate, SCE)
Power Systems II (Undergraduate, SCE)
Introduction to Energy Conversion (Undergraduate, BGU)

Renewable Energy (Graduate, AU, BGU)
Electronic Power Supplies (Graduate, AU)
Advanced Electric Drive (Graduate, AU)
Hybrid Vehicles (Graduate, AU, BGU)
Robot Modeling and Control (Graduate, AU)
Advanced Power Electronics (Graduate, AU, BGU)
Theory of Converter (Graduate, BGU)

(b) Research students

M. Sc., Active students

Or Trachtenberg (BGU), Expected to graduate by 10/2020.
Guy Cohen (BGU), Expected to graduate by 10/2020.

M. Sc., Graduate students

Alaa Fakhouri (AU)
Yeshialeka Basha (AU)
Chaim Lerman (AU)
Ezra Ben Senior (AU)
Gal Geula (AU)
Ido Amiel (AU)
Igor Ruchaevski (AU, Co-supervision with Dr. Simon Lineykin)
Liora Zeneva (AU)
Martin Mellincovsky (AU)

Moria Elkayam (AU)
Moshe Sitbon (AU)
Natan Schechter (AU)
Nir Alshek (AU)
Noam Reichbach (AU)
Sharon Farag (AU)
Shlomo Gadelovits (AU)
Uriel Aferiat (AU, Co-supervision with Dr. Tom Trigano)
Yossi Rabinovitz (AU)
Yuri Ditkovich (AU)
Eyal Amer (BGU)
Idan Sassonker (BGU)

Ph. D., Active students

Alexei Mutovkin (AU, Co-supervision with Prof. Shmuel Schacham), Expected to graduate by 01/2020.
Yosef Shani (AU, Co-supervision with Dr. Simon Lineykin), Expected to graduate by 10/2022.
Yan Vule (BGU), Expected to graduate by 10/2022.
Moria Elkayam (BGU), Expected to graduate by 10/2022.
Eli Barbie (BGU, Co-supervision with Prof. Raul Rabinovici), Expected to graduate by 10/2020.
Yotam Frechter (BGU), Expected to graduate by 10/2020.

Ph. D., Graduate students

Dr. Ilan Aharon (TAU, Co-supervision with Prof. Doron Shmilovitz)
Dr. Moshe Sitbon (AU, Co-supervision with Prof. Shmuel Schacham)
Dr. Vladimir Yuhimenko (AU, Co-supervision with Prof. Grigory Agranovich)
Dr. Sergei Kolesnik (AU, Co-supervision with Prof. Grigory Agranovich)
Dr. Martin Mellincovsky (BGU, Co-supervision with Prof. Mor Peretz)

Post-Doc., Active students

Dr. Vladimir Yuhimenko, BGU
Dr. Sergei Kolesnik, BGU

• **Awards, Citations, Honors, Fellowships**

(a) Honors, Citation Awards

2008 Ben-Gurion University of the Negev, Excellence in Teaching
2012 Ariel University of Samaria, Excellence in Teaching
2012 Ariel University of Samaria, Excellence in Research
2015 Ariel University of Samaria, Excellence in Teaching
2020 Ben-Gurion University of the Negev, Excellence in Teaching

(b) Fellowships

2002 – 2006, Marie-Curie Foundation, 20,000$, Imperial College London.

• **Scientific Publications**

H-index: 24, Total number of citations: 2643 (2350 without self-citations).

Refereed articles and refereed letters in scientific journals

1. A. Kuperman[S] and R. Rabinovici[PI], "Virtual torque and inertia loading of controlled electric drive," *IEEE Transactions on Education*, vol. 48, no. 1, pp. 47 – 52, 2005. (33(30) citations; IF: 1.4; 83/229; Q2).
2. A. Kuperman[S], R. Rabinovici[PI] and G.Weiss[PI], "Torque and power limitations of a shunt connected inverter based WECS," *WSEAS Transactions on Circuits and Systems*, vol. 7, no. 4, pp. 684 – 690, 2005. (2(1) citations; IF: ; /; Q).
3. A. Kuperman[S] and R. Rabinovici[PI], "Shunt voltage regulators for autonomous induction generators. Part I: principles of operation," *WSEAS Transactions on Power Systems*, vol. 1, no. 1, pp. 221 – 226, 2006. (9(7) citations; IF: ; /; Q).
4. A. Kuperman[S] and R. Rabinovici[PI], "Shunt voltage regulators for autonomous induction generators. Part II: circuits and systems," *WSEAS Transactions on Power Systems*, vol. 1, no. 1, pp. 227 – 232, 2006. (13(11) citations; IF: ; /; Q).
5. A. Kuperman[S], R. Rabinovici[PI] and G.Weiss[PI], "A shunt connected inverter based variable speed wind turbine generation", *International Journal of Electromotion*, vol. 13, no. 1, pp. 67-72, 2006. (2(2) citations; IF: ; /; Q).
6. A. Kuperman[S] and R. Rabinovici[PI], "Fixed switching frequency current sensorless solid-state voltage regulator for autonomous induction generators," *International Review of Electrical Engineering*, vol. 1, no. 2, pp. 295-303, 2006. (2(2) citations; IF: 0.75; 167/246; Q3).
7. *A. Kuperman*[S] and R. Rabinovici[PI], "On the speed stability of wind driven induction generators connected to distribution systems," *International Journal of Energy and Environment*, vol. 2, no. 1, pp. 57-64, 2007. (7(6) citations; IF: ; /; Q).
8. I. Katz[PI], A. Abramovitz[PI], Y. Horen[PI], A. Kuperman[PI] and S. Bronshtein[PI], "Analysis of generic cycloconverter operation with instantaneous commutation under transient and steady-state conditions," *Journal of Circuits, Systems and Computers*, vol. 18, no. 6, pp. 1061-1073, 2009. (2(2) citations; IF: 0.264; 225/243; Q4).
9. *A. Kuperman[PI]*, Y. Horen[PI] and S. Tapuchi[C], "A differential state-space approach to simultaneous emulation of uncertainties and disturbances in voltage controlled brushless motors," *IEEE Transactions on Industrial Electronics*, vol. 57, no. 2, pp. 727-733, 2010. (9(7) citations; IF: 3.481; 4/243; Q1).
10. A. Kuperman[PI], Y. Horen[PI] and S. Tapuchi[C], "Input-output nominalization of linear systems with slow varying uncertainties," *COMPEL - The International Journal for Computation and Mathematics in Electrical and Electronic Engineering*, vol. 29, no. 1, pp. 72-89, 2010. (9(6) citations; IF: 0.394; 221/243; Q4).
11. A. Kuperman[C], S. Tapuchi[PI], S. Makarenko[PI] and U. Suissa[PI], "Capacitance increase method," *IEEE Transactions on Instrumentation and Measurement*, vol. 59, no. 4, pp. 832-839, 2010. (6(5) citations; IF: 1.106; 94/243; Q2).
12. S. Tapuchi[PI], A. Kuperman[C], S. Makarenko[PI], Y. Horen[PI] and M. Mellincovsky[S], "Obtaining fresh water from atmosphere using electrostatic precipitation: theory, efficiency and limitations," *E-Water: Journal of the European Water Association*, 2010. (4(4) citations; IF: ; /; Q).
13. A. Kuperman[PI] and I. Aharon[S], "Battery-ultracapacitor hybrids for pulsed current loads: A review," *Renewable and Sustainable Energy Reviews*, vol. 15, no. 2, pp. 981 – 992, 2011. (289(284) citations; IF: 6.018; 4/81; Q1).
14. A. Kuperman[PD] and Q.-C. Zhong[PI], "Robust control of uncertain nonlinear systems with state delays based on an uncertainty and disturbance estimator," *International Journal of Nonlinear and Robust Control*, vol. 21, no. 1, pp. 79 – 92, 2011. (103(98) citations; IF: 1.554; 24/245; Q1).

15. R. Stobart[C], A. Kuperman[PD] and Q.-C. Zhong[PI], "Uncertainty and disturbance estimator (UDE) based control of uncertain linear systems with state-delays," *Journal of Dynamic Systems, Measurement, and Control - Transactions of ASME*, vol. 133, no. 2, pp. 1 – 6, 2011. (16(12) citations; IF: 1.554; 24/245; Q1).
16. I. Aharon[S] and A. Kuperman[PI], "Topological overview of battery powered vehicles with range extenders," *IEEE Transactions on Power Electronics*, vol. 26, no. 3, pp. 868 – 876, 2011. (204(200) citations; IF: 4.65; 7/245; Q1).
17. A. Kuperman[PI], "Testing motion controllers robustness by emulating electrical and mechanical parameter variations of motor drives," *Simulation Modelling Practice and Theory*, vol. 19, no. 9, pp. 1783 – 1794, 2011. (3(3) citations; IF: 0.969; 44/104; Q2).
18. A. Kuperman[PI], I. Aharon[S], A. Kara[S] and S. Malki[S], "A frequency domain approach to analyzing passive battery-ultracapacitor hybrids supplying periodic pulsed current loads," *Energy Conversion and Management*, vol. 52, no. 12, pp. 3433 – 3438, 2011. (42(40) citations; IF: 2.216; 29/81; Q2).
19. Q.-C. Zhong[PI], A. Kuperman[PI] and R. Stobart[C], "Design of UDE-based controllers from their two-degree-of-freedom nature," *International Journal of Nonlinear and Robust Control*, vol. 21, no. 17, pp. 1994 – 2008, 2011. (101(95) citations; IF: 1.554; 24/104; Q1).
20. J. Gavan[PI], T. Trigano[PI], S. Tapuchi[PI] and A. Kuperman[C], "Mitigation of mobile radio parasitic radiation effects: A review," *Journal of Communications Engineering and Systems*, vol. 2, no. 1, pp. 1 – 12, Apr. 2012. (2(2) citations; IF: ; /; Q).
21. Y. Ditkovich[S], A. Kuperman[PI], A. Yahalom[C] and M. Byalsky[C], "A generalized approach to estimating capacity factor of fixed speed wind turbines," *IEEE Transactions on Sustainable Energy*, vol. 3, no. 3, pp. 607 – 608, Jul. 2012. (18(15) citations; IF: 3.842; 15/247; Q1).
22. Y. Horen[PI], A. Kuperman[PI], Z. Vainer[C], S. Tapuchi[C] and M. Averbukh[C], "Emulating time varying nonlinear uncertainties and disturbances in LTI systems," *Simulation: Transactions of the Society for Modeling and Simulation International*, vol. 88, no. 12, pp. 1499 – 1507, 2012. (2(1) citations; IF: 0.692; 73/105; Q3).
23. A. Kuperman[PI], I. Aharon[S], S. Malki[S] and A. Kara[S], "Design of a semiactive battery-ultracapacitor hybrid energy source," *IEEE Transactions on Power Electronics*, vol. 28, no. 2, pp. 806 – 815, 2013. (143(140) citations; IF: 5.726; 4/247; Q1).
24. A. Kuperman[PI], M. Averbukh[PI] and S. Lineykin[PI], "Maximum power point matching versus maximum power point tracking for solar generators," *Renewable and Sustainable Energy Reviews*, vol. 19, pp. 11 – 17, 2013. (23(20) citations; IF: 5.51; 6/81; Q1).
25. M. Ben Chaim[PI], E. Shmerling[PI] and A. Kuperman[PI], "Analytic modeling of vehicle fuel consumption," Energies, vol. 6, no. 1, pp. 117 – 127, 2013. (49(48) citations; IF: 1.602; 43/82; Q2).
26. A. Kuperman[PI], U. Levy[C], J. Goren[C], A. Zafransky[C] and A. Savernin[C], "Battery charger for electric vehicle traction battery switch station," *IEEE Transactions on Industrial Electronics*, vol. 60, no. 12, pp. 5391 – 5399, Dec. 2013. (163(161) citations; IF: 6.5; 2/247; Q1).
27. M. Averbukh[PI], S. Lineykin[PI] and A. Kuperman[PI], "Obtaining small photovoltaic array operational curves for arbitrary cell temperatures and solar irradiation densities from standard conditions data," *Progress in Photovoltaics: Research and Applications*, vol. 21, no. 5, pp. 1016 – 1024, 2013. (28(25) citations; IF: 9.696; 4/81; Q1).
28. M. Mellincovsky[S], A. Kuperman[PI], C. Lerman[S], I. Aharon[S], N. Reichbach[S], G. Geula[S] and R. Nakash[C], "Performance assessment of a power loaded supercapacitor based on manufacturer data," *Energy Conversion and Management*, vol. 76, pp. 137 – 144, Dec. 2013. (21(19) citations; IF: 3.59; 18/81; Q1).
29. A. Kuperman[PI] and Q.-C. Zhong[PI], "Disturbance observer assisted robust control of wing rock motion based on contraction theory," *Simulation: Transactions of the Society for Modeling and Simulation International*, vol. 89, no. 9, pp. 1128 – 1136, 2013. (6(4) citations; IF: 0.656; 76/105; Q3).

30. Y. Ditkovich[S], A. Kuperman[PI], A. Yahalom[C] and M. Byalsky[C], "Site-dependent wind turbine performance index," *International Journal of Renewable Energy Research*, vol. 3, no. 3, pp. 592 – 594, 2013. (6(5) citations; IF: ; /; Q).
31. A. Kuperman[PI], Z. Vainer[C] and B. Epshtein[C], "On the similarity between phase locked loop and synchronous motor pull in processes," *Journal of Circuits, Systems and Computers*, vol. 23, no. 1, pp. 14500091-5, 2014. (2(1) citations; IF: 0.25; 230/249; Q4).
32. A. Fakhouri[S] and A. Kuperman[PI], "Backup of renewable energy for an electrical island: Case study of Israeli electricity system, part I – current status," *The Scientific World Journal*, vol. 2014, ID. 609687, pp. 1 – 8, 2014. (2(2) citations; IF: 1.219; 16/55; Q2).
33. Y. Ditkovich[S], G. Zangwill[S] and A. Kuperman[PI], "Nonlinear approximation of wind turbine capacity factor under Rayleigh winds," *International Transactions on Electrical Energy Systems*, vol. 24, no. 12, pp. 1818 – 1821, 2014. (2(2) citations; IF: 0.49; 204/249; Q4).
34. S. Lineykin[PI], M. Averbukh[PI] and A. Kuperman[PI], "An improved approach to extract the single-diode equivalent circuit parameters of a photovoltaic cell/panel," *Renewable and Sustainable Energy Reviews*, vol. 30, pp. 282 – 289, 2014. (97(95) citations; IF: 5.901; 8/88; Q1).
35. Y. Ditkovich[S], A. Kuperman[PI], A. Yahalom[C] and M. Byalsky[C], "Alternative approach to wind turbines performance index assessment," *Journal of Energy Engineering – ASCE*, vol. 140, no. 4, 06014001, Dec. 2014. (2(2) citations; IF: 1.343; 53/88; Q3).
36. Y. Ditkovich[S] and A. Kuperman[PI], "Comparison of three methods for wind turbine capacity factor estimation," *The Scientific World Journal*, vol. 2014, 805238, pp. 1 – 7, 2014. (9(8) citations; IF: 1.219; 16/55; Q2).
37. S. Gadelovits[S], M. Sitbon[S] and A. Kuperman[PI], "Rapid prototyping of a low cost solar array simulator using an off-the-shelf dc power supply," *IEEE Transactions on Power Electronics*, vol. 29, no. 10, pp. 5278 – 5284, Oct. 2014. (23(22) citations; IF: 6.008; 3/249; Q1).
38. A. Kuperman[PI], M. Mellincovsky[S], C. Lerman[S], I. Aharon[S], N. Reichbach[S], G. Geula[S] and R. Nakash[C], "Supercapacitor sizing based on desired power and energy performance," *IEEE Transactions on Power Electronics*, vol. 29, no. 10, pp. 5399 – 5405, Oct. 2014. (53(52) citations; IF: 6.008; 3/249; Q1).
39. S. Gadelovits[S], A. Kuperman[PI], M. Sitbon[S], I. Aharon[S] and S. Singer[C], "Interfacing renewable energy sources for maximum power transfer - Part I: Statics," *Renewable and Sustainable Energy Reviews*, vol. 31, pp. 501 – 508, 2014. (22(18) citations; IF: 5.901; 8/88; Q1).
40. M. Mellincovsky[S], A. Kuperman[PI], C. Lerman[S], S. Gadelovits[S], I. Aharon[S], N. Reichbach[S], G. Geula[S] and R. Nakash[C], "Performance and limitations of a constant power fed supercapacitor," *IEEE Transactions on Energy Conversion*, vol. 29, no. 2, pp. 445 – 452, 2014. (34(32) citations; IF: 3.326; 44/249; Q1).
41. A. Kuperman[PI], "Comments on 'An analytical solution for tracking photovoltaic module MPP'," *IEEE Journal of Photovoltaics*, vol. 4, no. 2, pp. 734 – 735, 2014. (13(12) citations; IF: 3.165; 46/259; Q1).
42. T. Suntio[PI], J. Viinamaki[S], J. Jokipii[S], T. Messo[S] and A. Kuperman[PI], "Dynamic characterization of power electronics interfaces," *IEEE Journal on Emerging and Selected Topics in Power Electronics*, vol. 2, no. 4, pp. 949 – 961, Dec. 2014. (19(18) citations; IF: 3.129; 25/255; Q1).
43. S. Lineykin[PI], M. Averbukh[PI] and A. Kuperman[PI], "Issues in modeling amorphous silicon photovoltaic modules by single-diode equivalent circuit," *IEEE Transactions on Industrial Electronics*, vol. 61, no. 12, pp. 6785 – 6793, Dec. 2014. (50(48) citations; IF: 6.498; 2/249; Q1).
44. V. Yuhimenko[S], M. Averbukh[C], G. Agranovich[PI] and A. Kuperman[PI], "Dynamics of supercapacitor bank with uncontrolled active balancer for engine starting," *Energy Conversion and Management*, vol. 88, pp. 106 – 112, 2014. (6(4) citations; IF: 4.38; 14/88; Q1).

45. I. Aharon[S], A. Kuperman[PI] and D. Shmilovitz[PI], "Analysis of dual-carrier modulator for bidirectional non-inverting buck-boost converter," *IEEE Transactions on Power Electronics*, vol. 30, no. 2, pp. 840 – 848, Feb. 2015. (38(36) citations; IF: 4.953; 9/255; Q1).
46. T. Suntio[PI] and A. Kuperman[PI], "Comments on 'An efficient partial power processing DC/DC converter for distributed PV architectures'," *IEEE Transactions on Power Electronics*, vol. 30, no. 4, pp. 2372-2372, Apr. 2015. (9(9) citations; IF: 4.953; 9/255; Q1).
47. M. Ben Chaim[PI], E. Shmerling[PI] and A. Kuperman[PI], "Fuel efficiency evaluation of gas turbine engine based hybrid vehicles," *International Journal of Green Energy*, vol. 12, no. 4, pp. 328 – 332, 2015. (3(2) citations; IF: 1.601; 51/88; Q3).
48. Y. Horen[PI], P. Strajnikov[S] and A. Kuperman[PI], "Simple mechanical parameters identification of induction machine using voltage sensor only," *Energy Conversion and Management*, vol. 92, pp. 60 – 66, 2015. (12(11) citations; IF: 4.801; 12/88; Q1).
49. M. Sitbon[S], J. Leppaaho[S], T. Suntio[PI] and A. Kuperman[PI], "Dynamics of photovoltaic generator interfacing voltage controlled buck power stage," *IEEE Journal of Photovoltaics*, vol. 5, no. 2, pp. 633 – 640, Mar. 2015. (23(22) citations; IF: 3.736; 20/88; Q1).
50. S. Kolesnik[S] and A. Kuperman[PI], "On the similarity between low-frequency equivalent circuits of photovoltaic and wind generators," *IEEE Transactions on Energy Conversion*, vol. 30, no. 1, pp. 407 – 409, Mar. 2015. (7(6) citations; IF: 2.596; 35/255; Q1).
51. M. Averbukh[PI], S. Lineykin[PI] and A. Kuperman[PI], "Portable ultracapacitor-based power source for emergency starting of internal combustion engines," *IEEE Transactions on Power Electronics*, vol. 30, no. 8, pp. 4283 – 4290, Aug. 2015. (23(20) citations; IF: 4.953; 9/255; Q1).
52. M. Sitbon[S], S. Schacham[PI], T. Suntio[PI] and A. Kuperman[PI], "Improved adaptive input voltage control of a solar array interfacing current mode controlled boost power stage," *Energy Conversion and Management*, vol. 98, pp. 369 – 375, Jul. 2015. (23(20) citations; IF: 4.801; 12/88; Q1).
53. J. Viinamaki[S], J. Jokipii[S], T. Messo[S], T. Suntio[PI], M. Sitbon[S] and A. Kuperman[PI], "Comprehensive dynamic analysis of photovoltaic generator interfacing DC-DC boost power stage," *IET Renewable Power Generation*, vol. 9, no. 4, pp. 306 – 314, 2015. (34(30) citations; IF: 1.562; 105/255; Q2).
54. Z. Vainer[PI], B. Epshtein[PI], S. Tapuchi[C], Y. Horen[C], P. Strajnikov[S], M. Averbukh[C] and A. Kuperman[PI], "Synchronous motor pull in process analysis," *Journal of Circuits, Systems and Computers*, vol. 24, no. 6, pp. 1550088-13, 2015. (2(1) citations; IF: 0.308; 237/255; Q4).
55. A. Kuperman[PI], "Proportional-resonant current controllers design based on desired transient performance," *IEEE Transactions on Power Electronics*, vol. 30, no. 10, pp. 5341 – 5345, Oct. 2015. (86(80) citations; IF: 4.953; 9/255; Q1).
56. A. Kuperman[PI], "Design of α-Filter based UDE controllers considering finite control bandwidth," *Nonlinear Dynamics*, vol. 81, no. 1, pp. 411 – 416, 2015. (12(11) citations; IF: 3.0; 8/132; Q1).
57. A. Kuperman[PI] and Q.-C. Zhong[PI], "UDE-based linear robust control for a class of nonlinear systems with application to wing rock motion stabilization," *Nonlinear Dynamics*, vol. 81, no. 1, pp. 789 – 799, 2015. (20(19) citations; IF: 3.0; 8/132; Q1).
58. A. Kuperman[PI], M. Sitbon[S], S. Gadelovits[S], M. Averbukh[C] and T. Suntio[PI], "Single-source multi-battery solar charger: analysis and stability issues," *Energies*, vol. 8, no. 7, pp. 6427 – 6450, 2015. (6(5) citations; IF: 2.077; 43/88; Q2).
59*. M. Sitbon[S], S. Schacham[PI] and A. Kuperman[PI], "Disturbance observer based voltage regulation of current-mode-boost-converter-interfaced photovoltaic generator," *IEEE Transactions on Industrial Electronics*, vol. 62, no. 9, pp. 5776 – 5785, Sep. 2015. (45(43) citations; IF: 6.383; 4/245; Q1).

60*. S. Kolesnik[S], M. Sitbon[S], S. Gadelovits[S], T. Suntio[PI] and A. Kuperman[PI], "Interfacing renewable energy sources for maximum power transfer - Part II: Dynamics," *Renewable and Sustainable Energy Reviews*, vol. 51, pp. 1771 – 1783, 2015. (14(10) citations; IF: 6.798; 6/88; Q1).

61*. V. Yuhimenko[S], C. Lerman[S] and A. Kuperman[PI], "DC active power filter based hybrid energy source for pulsed power loads," *IEEE Journal on Emerging and Selected Topics in Power Electronics*, vol. 3, no. 4, pp. 1001 – 1010, Dec. 2015. (14(12) citations; IF: 3.129; 25/255; Q1).

62*. A. Kuperman[PI], "Synchronous frame current controllers design based on desired stationary frame transient performance," *IET Electronics Letters*, vol. 51, no. 22, pp. 1769 – 1770, 2015. (2(1) citations; IF: 0.854; 169/255; Q3).

63*. S. Gadelovits[S], M. Sitbon[S], T. Suntio[PI] and A. Kuperman[PI], "Single-source multi-battery solar charger: case study and implementation issues," *Progress in Photovoltaics: Research and Applications*, vol. 23, no. 12, pp. 1916 – 1928, Dec. 2015. (6(4) citations; IF: 7.365; 5/88; Q1).

64*. N. Reichbach[S], M. Mellincovsky[S], M. M. Peretz[PI] and A. Kuperman[PI], "Long term wide temperature supercapacitor Ragone plot based on manufacturer datasheet," *IEEE Transactions on Energy Conversion*, vol. 31, no. 1, pp. 404 – 406, Mar. 2016. (9(8) citations; IF: 2.596; 35/255; Q1).

65*. S. Kolesnik[S] and A. Kuperman[PI], "On the equivalence of major variable-step size MPPT algorithms," *IEEE Journal of Photovoltaics*, vol. 6, no. 2, pp. 590 – 594, Mar. 2016. (25(22) citations; IF: 3.736; 20/88; Q1).

66*. N. Reichbach[S] and A. Kuperman[PI], "Recursive least squares based real time estimation of supercapacitor parameters," *IEEE Transactions on Energy Conversion*, vol. 31, no. 2, pp. 810 – 812, Jun. 2016. (42(42) citations; IF: 2.596; 35/255; Q1).

67*. A. Kuperman[PI], "Uncertainty and disturbance estimator assisted control of two-axis active magnetic bearing," *Transactions of the Institute of Measurement and Control*, vol. 38, no. 6, pp. 764 – 772, 2016. (8(6) citations; IF: 0.82; 45/59; Q4).

68*. A. Kuperman[PI], "Comments on 'Design of α-Filter based UDE controllers considering finite control bandwidth'," *Nonlinear Dynamics*, vol. 85, pp. 693 – 698, 2016. (4(2) citations; IF: 3.0; 8/132; Q1).

69*. S. Farag[S], C. Lerman[S], S. Lineykin[C] and A. Kuperman[PI], "Off-the-shelf power-supply-based battery-supercapacitor emulator for charger functionality testing," *IEEE Transactions on Transportation Electrification*, vol. 2, no. 2, pp. 129 – 139, Jun. 2016. (5(5) citations; IF: 5.27; 31/266; Q1).

70*. V. Yuhimenko[S], G. Geula[S], G. Agranovich[PI], M. Averbukh[C] and A. Kuperman[PI], "Average modeling and performance analysis of voltage sensorless active supercapacitor balancer with peak current protection," *IEEE Transactions on Power Electronics*, vol. 32, no. 2, pp. 1570 – 1578, Feb. 2017. (14(13) citations; IF: 7.151; 13/260; Q1).

71*. N. Schechter[S] and A. Kuperman[PI], "Zero sequence manipulation to maintain correct operation of NPC-PFC rectifier upon neutral line disconnection and reconnection," *IEEE Transactions on Industrial Electronics*, vol. 64, no. 1, pp. 866 – 872, Jan. 2017. (2(2) citations; IF: 7.168; 1/60; Q1).

72*. I. Aharon[S], D. Shmilovitz[PI] and A. Kuperman[PI], "Robust output voltage control of multi-mode non-inverting DC-DC converter," *International Journal of Control*, vol. 90, no. 1, pp. 110 – 120, 2017. (10(9) citations; IF: 2.208; 26/60; Q2).

73*. M. Mellincovsky[S], V. Yuhimenko[S], M. M. Peretz[PI] and A. Kuperman[PI], "Low-frequency DC link ripple elimination in power converters with reduced capacitance by multiresonant direct voltage regulation," *IEEE Transactions on Industrial Electronics*, vol. 64, no. 3, pp. 2015-2023, Mar. 2017. (22(20) citations; IF: 7.168; 1/60; Q1).

74*. J. Kivimäki[S], S. Kolesnik[S], M. Sitbon[S], T. Suntio[PI] and A. Kuperman[PI], "Revisited perturbation frequency design guideline for direct fixed-step maximum power point tracking algorithms," *IEEE Transactions on Industrial Electronics*, vol. 64, no. 6, pp. 4601 – 4609, Jun. 2017. (22(21) citations; IF: 7.168; 1/60; Q1).

75*. G. Geula[S], S. Bronshtein[C], M. Averbukh[C] and A. Kuperman[PI], "Enhancing low-throttle-operation robustness of ICE-based APU by supercapacitor-realized virtual inertia," *IEEE Transactions on Sustainable Energy*, vol. 8, no. 3, pp. 1344 – 1346, Jul. 2017. (2(1) citations; IF: 4.909; 21/260; Q1).

76*. J. Viinamäki[S], A. Kuperman[PI] and T. Suntio[PI], "Grid forming mode operation of boost power stage converter in PV generator interfacing applications," *Energies*, vol. 10, no. 7, 1033 (24 pp.), 2017. (10(9) citations; IF: 2.262; 45/92; Q2).

77*. T. Suntio[PI], T. Messo[S], A. Aapro[S], J. Kivimäki[S] and A. Kuperman[PI], "Review of PV generator as an input source for power electronic converters," *Energies*, vol. 10, no. 8, 1076 (25 pp.), 2017. (9(8) citations; IF: 2.262; 45/92; Q2).

78*. I. Aharon[S], D. Shmilovitz[PI] and A. Kuperman[PI], "Multimode power processing interface for a fuel cell based range extender," *Applied Energy*, vol. 204, pp. 572 – 581, 2017. (2(2) citations; IF: 7.182; 4/135; Q1).

79*. S. Gadelovits[S], V. Kadirkamanathan[PI], Q.-C. Zhong[PI] and A. Kuperman[PI], "Uncertainty and disturbance estimator based controller equipped with a multi-band-stop filter to improve the voltage quality of inverters," *IEEE Transactions on Industrial Electronics*, vol. 64, no. 9, pp. 7433 – 7443, Sep. 2017. (10(8) citations; IF: 7.168; 1/60; Q1).

80*. S. Kolesnik[S], M. Sitbon[S], S. Lineykin[C], E. Batzelis[S], S. Papathanassiou[C], T. Suntio[PI] and A. Kuperman[PI], "Solar irradiation independent expression for photovoltaic generator maximum power line," *IEEE Journal of Photovoltaics*, vol. 7, no. 5, pp. 1416 – 1420, Sep. 2017. (11(10) citations; IF: 3.712; 26/147; Q1).

81*. S. Kolesnik[S] and A. Kuperman[PI], "Analytical derivation of electrical-side maximum power line for wind generators," *Energies*, vol. 10, no. 10, 1498 (6 pp.), 2017. (2(2) citations; IF: 2.262; 45/92; Q2).

82*. J. Kivimäki[S], S. Kolesnik[S], M. Sitbon[S], T. Suntio[PI] and A. Kuperman[PI], "Design guidelines for multi-loop perturbative maximum power point tracking algorithms," *IEEE Transactions on Power Electronics*, vol. 33, no. 2, pp. 1284 – 1293, Feb. 2018. (26(25) citations; IF: 6.812; 14/260; Q1).

83*. I. Aharon[S], D. Shmilovitz[PI] and A. Kuperman[PI], "Uncertainty and disturbance estimator based controllers design under finite control bandwidth constraint," *IEEE Transactions on Industrial Electronics*, vol. 65, no. 2, pp. 1439 – 1449, 2018. (10(8) citations; IF: 7.050; 1/61; Q1).

84*. M. Mellincovsky[S], V. Yuhimenko[S], M. M. Peretz[PI] and A. Kuperman[PI], "Analysis and control of direct voltage regulated active DC link capacitance reduction circuit," *IEEE Transactions on Power Electronics*, vol. 33, no. 7, pp. 6318 – 6332, 2018. (11(10) citations; IF: 6.812; 14/260; Q1).

85*. M. Mellincovsky[S], V. Yuhimenko[S], Q.-C. Zhong[C], M. M. Peretz[PI] and A. Kuperman[PI], "Active DC link capacitance reduction in grid-connected power conversion systems by direct voltage regulation," *IEEE Access*, vol. 6, pp. 18163 – 18173, Mar. 2018. (3(2) citations; IF: 3.557; 24/148; Q1).

86*. M. Sitbon[S], S. Schacham[PI], T. Suntio[PI] and A. Kuperman[PI], "Online dynamic conductance estimation based maximum power point tracking of photovoltaic generators," *Energy Conversion and Management*, vol. 166, pp. 687 – 696, 2018. (6(5) citations; IF: 6.377; 3/144; Q1).

87*. I. Aharon[S], D. Shmilovitz[PI] and A. Kuperman[PI], "Phase margin oriented design and analysis of UDE-based controllers under actuator constraints," *IEEE Transactions on Industrial Electronics*, vol. 65, no. 10, pp. 8133 – 8141, Oct. 2018. (2(2) citations; IF: 7.050; 1/61; Q1).

88*. S. Gadelovits[S], V. Kadirkamanathan[PI], Q.-C. Zhong[PI] and A. Kuperman[PI], "UDE-based controller equipped with a time-delayed filter to improve the voltage quality of inverters," *IEEE Transactions on Industrial Electronics*, vol. 66, no. 1, pp. 459 – 469, Jan. 2019. (4(3) citations; IF: 7.050; 1/61; Q1).

89*. N. Alshek[S], S. Bronshtein[C], M. Elkayam[S] and A. Kuperman[PI], "Modified uncertainty and disturbance estimator for enhanced periodic signals suppression," *IEEE Transactions on Industrial Electronics*, vol. 66, no.2, pp. 1246 – 1254, Feb. 2019. (4(3) citations; IF: 7.050; 1/61; Q1).

90*. E. Amer[S], A. Kuperman[PI] and T. Suntio[C], "Direct fixed-step maximum power point tracking algorithms with adaptive perturbation frequency," *Energies*, vol. 12, no. 3, 2019. (3(2) citations; IF: 2.676; 48/97; Q2).

91*. A. Cervera[S], O. Ezra[S], A. Kuperman[C] and M. M. Peretz[PI], "Modelling and control of magnetic actuation systems based on sensorless displacement information," *IEEE Transactions on Industrial Electronics*, vol. 66, no. 6, pp. 4849 – 4859, Jun. 2019. (4(4) citations; IF: 7.050; 1/61; Q1).

92*. A. Mutovkin[S], V. Yuhimenko[PD], S. Schacham[C] and A. Kuperman[PI], "Simple and straightforward realization of an electronic capacitor," *IET Electronics Letters*, vol. 55, no. 4, pp. 220 -222, Feb. 2019. (2 citations; IF: 1.232; 184/260; Q3).

93*. M. Elkayam[S], S. Kolesnik[PD] and A. Kuperman[PI], "Guidelines to classical frequency domain disturbance observer re-design for enhanced rejection of periodic uncertainties and disturbances," *IEEE Transactions on Power Electronics*, vol. 34, no. 4, pp. 3986 – 3995, Apr. 2019. (5(4) citations; IF: 6.812; 14/260; Q1).

94*. A. Mutovkin[S], V. Yuhimenko[PD], M. Mellincovsky[C], S. Schacham[C] and A. Kuperman[PI], "Control of direct voltage regulated active DC link capacitance reduction circuits to allow plug-and-play operation," *IEEE Transactions on Industrial Electronics*, vol. 66, no. 8, pp. 6527 – 6537, Aug. 2019. (5(4) citations; IF: 7.050; 1/61; Q1).

95*. D. Baimel[PI] and A. Kuperman[PI], "Full theoretical analysis with simulation-based verification of thyristors-bridge-type SFCL operation modes," *Simulation Modelling Practice and Theory*, vol. 94, pp. 349 – 366, 2019. (0(0) citations; IF: 2.092; 21/104; Q1).

96*. M. Elkayam[S], S. Kolesnik[PD], Y. Basha[C] and A. Kuperman[PI], "Loop shaping by single-resonant controllers for prescribed tracking of sinusoidal references," *IEEE Transactions on Power Electronics*, vol. 34, no. 11, pp. 11352 – 11360, Nov. 2019. (0(0) citations; IF: 6.812; 14/260; Q1).

97*. S. Gadelovits[S], D. Insepov[C], V. Kadirkamanathan[C], Q.-C. Zhong[C] and A. Kuperman[PI], "UDE-based controller equipped with a multiple-time-delayed filter to improve the voltage quality of inverters," *IEEE Transactions on Industrial Electronics*, vol. 66, no. 11, pp. 8947 – 8957, Nov. 2019. (0(0) citations; IF: 7.050; 1/61; Q1).

98*. M. Elkayam[S] and A. Kuperman[PI], "Generalized optimized design of single-resonant AC current regulators," *IET Electronics Letters*, vol. 55, no. 10, pp. 613 – 615, 2019. (2(1) citations; IF: 1.232; 184/260; Q3).

99*. A. Mutovkin[S], V. Yuhimenko[PD], M. Mellincovsky[C], S. Schacham[C] and A. Kuperman[PI], "Conditions for direct applicability of electronic capacitors to dual-stage grid-connected power conversion systems," *IEEE Journal of Emerging and Selected Topics in Power Electronics*, vol. 7, no. 3, pp. 1805 – 1814, Sep. 2019. (1(1) citations; IF: 5.177; 23/260; Q1).

100*. T. Suntio[PI] and A. Kuperman[PI], "Maximum perturbation step size in MPP-tracking control for ensuring predicted PV power settling behavior," *Energies*, vol. 12, no. 20, 2019. (0(0) citations; IF: 2.676; 48/97; Q2).

101*. I. Zeltser[PI], M. Evzelman[C], A. Kuperman[C] and M. M. Peretz[PI], "Zero current switching resonant converter based parallel balancing of serially connected batteries string," *IEEE Transactions on Industry Applications*, vol. 55, no. 6, pp. 7452 – 7460, Nov./Dec. 2019. (0(0) citations; IF: 2.743; 14/86; Q1).

102*. M. Elkayam[S] and A. Kuperman[PI], "Optimized design of multi-resonant AC current regulators for single-phase grid-connected photovoltaic inverters," *IEEE Journal of Photovoltaics*, vol. 9, no. 6, pp. 1815 – 1818, Nov. 2019. (0(0) citations; IF: 3.398; 35/148; Q1).

103*. A. Kuperman[PI], "Comment on 'Analysis, design, and optimization of LC/S compensation topology with excellent load-independent voltage output for inductive power transfer'," *IEEE Transactions on Transportation Electrification*, vol. 5, no. 4, pp. 1480 – 1483, Dec. 2019. (0(0) citations; IF: 5.27; 31/266; Q1).

104*. E. Barbie[S], R. Rabinovici[C] and A. Kuperman[PI], "Closed form analytic expression of total harmonic distortion in single-phase multilevel inverters with staircase modulation," *IEEE Transactions on Industrial Electronics*, Accepted for publication. (0(0) citations; IF: 7.503; 1/61; Q1).

105*. E. Barbie[S], R. Rabinovici[C] and A. Kuperman[PI], "Modeling and simulation of a novel active three-phase multilevel power factor correction front end – the "Negev" rectifier," *IEEE Transactions on Energy Conversion*, Accepted for publication. (0(0) citations; IF: 4.614; 40/266; Q1).

106*. Y. Frechter[S] and A. Kuperman[PI], "Output voltage range of a power loaded series-series compensated inductive wireless power transfer link operating in load-independent regime," *IEEE Transactions on Power Electronics*, Accepted for publication. (0(0) citations; IF: 7.224; 16/266; Q1).

* While working at BGU.

• Lectures and Presentations at Meetings and Invited Seminars

1. R. Rabinovici, and A. Kuperman, "Virtual loading of electric drive," in *Proc. ICEM 2002*, Brugge, Belgium, 2002. (Acceptance rate: 50%)
2. R. Rabinovici, and A. Kuperman, "Autonomous induction generator with solid-state reactive power excitation," in *Proc. 22nd IEEE Conv. In Israel*, 2002. (Acceptance rate: NA%)
3. A. Kuperman, and R. Rabinovici, "Overview of solid-state excitation schemes for autonomous induction generators," in *Proc. 3rd IASTED Conf. On PES*, Marbella, Spain, 2003. (Acceptance rate: NA%)
4. A. Kuperman, and R. Rabinovici, "Time delay compensation in solid-state excited autonomous induction generators," in *Proc. PEMD'04*, Edinburgh, Scotland, 2004. (Acceptance rate: 25%)
5. A. Kuperman, and R. Rabinovici, "Fault diagnosis of an observer-based torque controlled PMSM: Part I – Inverter transistor short-circuit fault," in *Proc. OPTIM'04*, Brasov, Romania, 2004. (Acceptance rate: NA%)
6. A. Kuperman, and R. Rabinovici, "Fault diagnosis of an observer-based torque controlled PMSM: Part II – Motor faults," in *Proc. OPTIM'04*, Brasov, Romania, 2004. (Acceptance rate: NA%)
7. A. Kuperman, R. Katz, E. Goren and R. Rabinovici, "DSP controlled active power filter modeling and simulation using SymPowerSystems and fixed point Blockset," in *Proc. EPE-PEMC'04*, Riga, Latvia, 2004. (Acceptance rate: 35%)
8. A. Kuperman, and R. Rabinovici, "A capacitor emulating solid-state voltage regulator for autonomous induction generators," in *Proc. ACEMP'04*, Istanbul, Turkey, 2004. (Acceptance rate: NA%)
9. S. Cooper, A. Kuperman and R. Rabinovici, "Controlling an electrical motion system by a load instruction decoding algorithm using FPGA," in *Proc 11th IEEE International Conference on ICECS*, Tel-Aviv, Israel, 2004. (Acceptance rate: NA%)

10. A. Kuperman, and R. Rabinovici, "Shunt voltage regulators for autonomous induction generators. Part I: principles of operation," in *Proc. 11th IEEE International Conference on ICECS*, Tel-Aviv, Israel, 2004. (Acceptance rate: NA%)
11. A. Kuperman, and R. Rabinovici, "Shunt voltage regulators for autonomous induction generators. Part II: circuits and Systems," in *Proc. 11th IEEE International Conference on ICECS*, Tel-Aviv, Israel, 2004. (Acceptance rate: NA%)
12. D. Arbit, A. Pritzker, A. Kuperman and R. Rabinovici, "A DSP-controlled PWM generator using field programmable gate array," in *Proc. 23rd IEEE Conv. In Israel*, 2004. (Acceptance rate: NA%)
13. A. Kuperman, R. Rabinovici and G.Weiss, "A shunt connected inverter based variable speed wind turbine generation", *in Proc. Electromotion*, Lausanne, Switzerland, 2005**.** (Acceptance rate: NA%)
14. A. Kuperman, V. Spitsa, R. Rabinovici, G. Weiss, "Design of an outer loop of robust voltage controller for an induction generator in an autonomous power system,", in *Proc. ICEM 2006*, Crete, Greece, 2006. (Acceptance rate: 50%)
15. V. Spitsa, A. Kuperman, R. Rabinovici and G. Weiss, "Design of robust voltage controller for an induction generator in an autonomous power system," in *Proc. IEEE American Control Conference (ACC 2006)*, pp. 3475 – 3481, Minneapolis, Minnesota, USA, 2006. (Acceptance rate: 30%)
16. A. Kuperman and O. Donchin, "Catch trials influence on desired trajectory," in *Proc*. 17th Annual Meeting of NCM, Seville, Spain, 2007. (Acceptance rate: NA%)
17. M. Averbukh and A. Kuperman, "Real weather conditions impact on optimally arranged solar array," in *Proc*. 14th *Sede Boqer Symposium on Solar Electricity Production*, Sede Boqer, Israel, 2007. (Acceptance rate: NA%)
18. A. Kuperman, and R. Rabinovici, "Small-Disturbance Speed Stability of Wind-Driven Induction Generators," in *Proc. Israel Renewable Energy Conference*, Tel-Aviv, 2007. (Acceptance rate: NA%)
19. A. Kuperman, and R. Rabinovici, "Large-Disturbance Speed Stability of Wind-Driven Induction Generators," In *Proc. 7th WSEAS International Conference on Power Systems* (PE 2007), Beijing, 2007. (Acceptance rate: NA%)
20. A. Kuperman, "Rapid Prototyping of a 9-band parametric equalizer for a hearing-aid device using Simulink and TMS3206713 DSK," in *Proc. 3rd European DSP Education and Research Symposium (EDERS 2008),* Tel-Aviv, Israel, 2008. (Acceptance rate: NA%)
21. A. Kuperman, "HIL-Based Virtual Disturbance and Parameter Variations of Controlled Electric Drive," in *Proc. 2008 IEEE International Symposium on Industrial Electronics (ISIE'08)*, Cambridge, UK, 2008. (Acceptance rate: 30%)
22. A. Kuperman, Y. Horen, U. Suissa and S. Tapuchi, "Feedforward Compensation of Load and Parameter Variations of Electric Drive," in *Proc. 13th International Power Electronics and Motion Control Conference (EPE-PEMC 2008)*, Poznan, Poland, 2008. (Acceptance rate: 35%)
23. A. Kuperman and Q.-C. Zhong, "Model reference robust UDE-based control of uncertain nonlinear state-delay systems," in *Proc. EUROCON 2009 – 5th IEEE Region 8 Conference*, May 18-23, Saints-Petersburg, Russia, 2009. (Acceptance rate: 30%)
24. A. Kuperman and Q.-C. Zhong, "Control of uncertain linear state-delay plants based on an uncertainty and disturbance estimator," in *Proc. ROCOND – 6th IFAC Conference on Robust Control*, June 16-18, Haifa, Israel, 2009. (Acceptance rate: 30%)
25. A. Kuperman, Q.-C. Zhong and R. Stobart, "Filter design for UDE-based controllers," in *Proc. Control 2010 – UKACC International Conference on Control*, pp. 583 – 588, September 7-10, Coventry, UK, 2010. (Acceptance rate: 30%)

26. A. Kuperman, U. Levy, Y. Goren, A. Zafranski, A. Savernin and I. Peleg, "Modeling and control of a 50KW electric vehicle fast charger," in *Proc. 26th IEEE Conv. in Israel*, 2010. (Acceptance rate: NA%)
27. Z. Batushansky and A. Kuperman, "Thevenin-based approach to PV arrays maximum power prediction," in *Proc. 26th IEEE Conv. in Israel*, 2010. (Acceptance rate: NA%)
28. I. Aharon and A. Kuperman, "Design of semi-active battery-ultracapacitor hybrids," in *Proc. 26th IEEE Conv. in Israel*, 2010. (Acceptance rate: NA%)
29. A. Kuperman, U. Levy, Y. Goren, A. Zafranski and A. Savernin, "High power Li-Ion battery charger for electric vehicle," in *Proc. 7th IEEE International Conference-Workshop on Compatibility and Power Electronics* (*CPE'11*), June 1-3, Tallinn, Estonia, 2011. (Acceptance rate: 30%)
30. A. Kuperman, U. Levy, Y. Goren, A. Zafranski and A. Savernin, "Modeling and control of the PFC stage for a 50KW EV fast battery charger," in *Proc. International Conference on Electrical and Electronics Engineering* (*ICEEE'11*), July 6-8, London, UK, 2011. (Acceptance rate: NA%)
31. A. Kuperman, Q.-C. Zhong and R. Stobart, "Robust control of wing rock motion," in *Proc. 50th IEEE Conference on Decision and Control and European Control Conference* (CDC-ECC), pp. 5659 – 5664, Dec. 12-15, 2011. (Acceptance rate: 30%)
32. S. Gadelovits and A. Kuperman, "Modeling and classical control of unidirectional VIENNA rectifiers," in *Proc. Electric Power Quality and Supply Reliability Conference* (PQ'2012), June 11-13, Tartu, Estonia, 2012. (Acceptance rate: NA%)
33. A. Kuperman, S. Arogeti, Z. Brand and Q.-C. Zhong, "Robust UDE-based control of active magnetic bearing for flywheel applications," in *Proc. International Conference on Electrical Systems for Aircraft, Railway and Ship Propulsion* (*ESARS'12*), October 16-18, Bologna, Italy, 2012. (Acceptance rate: 40%)
34. C. Lerman, A. Horosov and A. Kuperman, "Capacitor semi-active battery-ultracapacitor hybris energy source," in *Proc. 27th IEEE Conv. in Israel*, 2012. (Acceptance rate: NA%)
35. A. Kuperman, M. Averbukh and S. Lineykin, "Maximum power point matching of solar arrays to arbitrary loads," in *Proc. 27th IEEE Conv. in Israel*, 2012. (Acceptance rate: NA%)
36. S. Lineykin, M. Averbukh and A. Kuperman, "Five-parameter model of photovoltaic cell based on STC data," in *Proc. 27th IEEE Conv. in Israel*, 2012. (Acceptance rate: NA%)
37. Y. Ditkovich, A. Kuperman, A. Yahalom, M. Byalsky, Y. Ditkovich and S. Tapuchi, "Wind turbine performance index," in *Proc. 27th IEEE Conv. in Israel*, 2012. (Acceptance rate: NA%)
38. A. Kuperman, "UDE-based robust control of DC-DC power converters," in *Proc. International Congress on Ultra-Modern Telecommunications and Control Systems* (ICUMT'13), September 10-13, Almaty, Kazakhstan, 2013. (Acceptance rate: 50%)
39. I. Aharon, A. Kuperman and D. Shmilovitz, "Analysis of a bidirectional buck-boost converter for energy storage applications," in *Proc. 39th Annual Conference of the IEEE Industrial Electronics Society* (*IECON'13*), November 10-13, Vienna, Austria, 2013. (Acceptance rate: 30%)
40. M. Sitbon, S. Gadelovits and A. Kuperman, "Multi-output portable solar charger for Li-Ion batteries," in *Proc. Power Electronics Machines and Drives (PEMD'14) Conference*, Manchester, UK, 2014. (Acceptance rate: 25%)
41. M. Mellincovsky, C. Lerman, N. Reichbach and A. Kuperman, "Supercapacitor sizing for desired performance," in *Proc. Power Electronics Machines and Drives (PEMD'14) Conference*, Manchester, UK, 2014. (Acceptance rate: 25%)
42. T. Suntio, J. Viinamaki, J. Jokipii, T. Messo, M. Sitbon and A. Kuperman, "Effect of input and output terminal sources on dynamic behavior of switched mode converters," in *Proc. International Power Electronics Conference (IPEC'14)*, Hiroshima, Japan, 2014. (Acceptance rate: 40%)

43. M. Averbukh, A. Kuperman, G. Geula, S. Gadelovits and V. Yuhimenko, “Combining diesel generators with ultracapacitors to enhance stability and reliability,” in *Proc. ASME International Mechanical Engineering Congress and Exposition* (ICEME’14), Montreal, Canada, 2014. (Acceptance rate: 40%)
44. S. Lineykin, I. Ruchaevski and A. Kuperman, “Analysis and optimization of TEG-heatsink waste energy harvesting system for low temperature gradients,” in *Proc. 16th Conference on Power Electronics and Applications* (*EPE’14-ECCE Europe*), Lappeenranta, Finland, 2014. (Acceptance rate: 35%)
45. M. Averbukh, A. Kuperman and S. Lineykin, “Compact energy source for emergency engine staring based synergetic battery-ultracapacitor circuit,” in *Proc. 16th Conference on Power Electronics and Applications* (*EPE’14-ECCE Europe*), Lappeenranta, Finland, 2014. (Acceptance rate: 35%)
46. M. Mellincovsky, S. Tapuchi, Y. Horen, M. M. Peretz and A. Kuperman, “Boundary controller for switched capacitor converters,” in *Proc. 28th IEEE Conv. in Israel*, 2014. (Acceptance rate: NA%)
47. G. Geula, N, Reichbach and A. Kuperman, "Hybrid fuel cell powered charging station for urban supercapacitor buses," in Proc. *5th Eur. Symp. Supercap. Hybrid. Sol. (ESSCAP)*, Apr. 23 – 25, Brasov, Romania, 2015. (Acceptance rate: NA%)
48. M. Averbukh, G. Geula and A. Kuperman, "Analysis of passive diesel generator – supercapacitor hybrid for enhanced low throttle operation," in Proc. *5th Eur. Symp. Supercap. Hybrid. Sol. (ESSCAP)*, Apr. 23 – 25, Brasov, Romania, 2015. (Acceptance rate: NA%)
49. S. Gadelovits, V. Kadirkamanathan, Q.-C. Zhong and A. Kuperman, "Impedance shaping for parallel operation of inverters in islanded AC microgrids," in Proc. *IEEE 6th International Symposium on Power Electronics and Distributed Generation Systems (PEDG)*, Jun. 22 – 25, Aachen, Germany, 2015. (Acceptance rate: 30%)
50. N. Reichbach, S. Kolesnik and A. Kuperman, "Real-time state-of-energy estimation of supercapacitor-based energy storage," in Proc. *IEEE East-West Design & Test Symposium*, Sep. 26 – 29, Batumi, Georgia, 2015. (Acceptance rate: 50%)
51. I. Aharon, D. Shmilovitz and A. Kuperman, "Robust UDE controller for energy storage application," in Proc. *4th International Conference on Renewable Energy Research and Applications*, Nov. 22 – 25, Palermo, Italy, 2015. (Acceptance rate: NA%)
52. A. Kuperman, S. Lineykin, V. Lo Brano, G. Ciulla and T. Suntio, "Obtaining dynamic Norton parameters of a solar panel from manufacturer data," in Proc. *Power Electronics Machines and Drives (PEMD'16) Conference*, Apr. 19-21, Glasgow, UK, 2016. (Acceptance rate: 25%)
53. *M. Mellincovsky, V. Yuhimenko, M. M. Peretz and A. Kuperman, "A novel approach to active DC link capacitance reduction for single phase power factor correction circuits," in Proc. *Power Electronics Machines and Drives (PEMD'16) Conference*, Apr. 19-21, Glasgow, UK, 2016. (Acceptance rate: 25%)
54. *M. Sitbon, S. Kolesnik, S. Lineykin and A. Kuperman, "Maximum power point tracking of renewable energy generators based on sum of dynamic and static conductances," in Proc. *Power Electronics Machines and Drives (PEMD'16) Conference*, Apr. 19-21, Glasgow, UK, 2016. (Acceptance rate: 25%)
55. *V. Yuhimenko, G. Geula, G. Agranovich, M. Averbukh and A. Kuperman, "Active voltage sensorless supercapacitor bank balancer with peak current protection," in Proc. *Intelligent Energy and Power Systems (IEPS'16) Conference*, Jun. 7 – 11, Kiev, Ukraine, 2016. (Acceptance rate: 50%)
56. *S. Kolesnik, M. Sitbon, G. Agranovich, T. Suntio and A. Kuperman, "Comparison of photovoltaic and wind generators as dynamic input sources to power processing interfaces," in Proc. *Intelligent Energy and Power Systems (IEPS'16) Conference*, Jun. 7 – 11, Kiev, Ukraine, 2016. (Acceptance rate: 50%)

57. *M. Mellincovsky, V. Yuhimenko, M. M. Peretz and A. Kuperman, "Control of DC link ripple eliminator with reduced capacitance for grid connected power converters," in Proc. *International Conference on Modern Electrical Power Engineering (ICMEPE-2016)*, Jul. 6 – 8, Las Palmas de Gran Canaria, Spain, 2016. (Acceptance rate: NA%)
58. *G. Geula, S. Kolesnik, G. Agranovich and A. Kuperman, "Generalization of the main MPPT methods," in Proc. *Renewable Power Generation (RPG) Conference*, Sep. 21 – 23, London, UK, 2016. (Acceptance rate: 25%)
59. *Y. Basha, M. Sitbon, S. Schacham, S. Lineykin, T. Suntio and A. Kuperman, "Robust maximum power point tracking of renewable energy generators," in Proc. *Renewable Power Generation (RPG) Conference*, Sep. 21 – 23, London, UK, 2016. (Acceptance rate: 25%)
60. *A. Kuperman and M. Averbukh, "Novel equivalent lead-acid battery circuits development with separated simulation of chemical and electrical domains," in Proc. *18th European Conference on Power Electronics and Applications (EPE-ECCE Europe)*, Karlsruhe, Germany, 2016. (Acceptance rate: 35%)
61. *J. Kivimäki, S. Kolesnik, M. Sitbon, T. Suntio and A. Kuperman, "Determining maximum MPP-tracking sampling frequency for input-voltage-controlled PV-interfacing converter," in Proc. *Energy Conversion Congress and Exposition (ECCE)*, Sep. 18 – 22, Milwaukee, USA, 2016. (Acceptance rate: 30%)
62. *Y. Basha, A. Belenky and A. Kuperman, "Tracking performance oriented design of proportional-resonant controllers under finite control bandwidth and actuator delay," in Proc. *International Conference on the Science of Electrical Engineering (ISCEE)*, Nov. 16 – 18, Eilat, Israel, 2016. (Acceptance rate: NA%)
63. *M. Elkayam, A. Belenky, J. M. Guerrero and A. Kuperman, "Robust droop control of grid-connected inverters," in Proc. *International Conference on the Science of Electrical Engineering (ISCEE)*, Nov. 16 – 18, Eilat, Israel, 2016. (Acceptance rate: NA%)
64. *N. Alshek, M. Elkayam and A. Kuperman, "Estimation of harmonic disturbances with time delay UDE based controller," in Proc. *International Conference on the Science of Electrical Engineering (ISCEE)*, Nov. 16 – 18, Eilat, Israel, 2016. (Acceptance rate: NA%)
65. *M. Mellincovsky, V. Yuhimenko, M. M. Peretz and A. Kuperman, "Infinite virtual capacitor realization for grid-connected power converters," in Proc. *International Conference on the Science of Electrical Engineering (ISCEE)*, Nov. 16 – 18, Eilat, Israel, 2016 (**Best student paper award**) . (Acceptance rate: NA%)
66. *J. Kivimäki, S. Kolesnik, M. Sitbon, T. Suntio and A. Kuperman, "Sampling frequency design for input-voltage-controlled PV-interfacing converter to optimizing MPP-tracking performance for open-loop-operated converters," in Proc. *42nd Annual Conference of the IEEE Industrial Electronics Society (IECON)*, Oct. 23 – 26, Florence, Italy, 2016. (Acceptance rate: 30%)
67. *S. Kolesnik, M. Sitbon, A. Yahalom and A. Kuperman, "Assessment of wind resource statistics in Samaria region," in Proc. *16th International Scientific Conference on Engineering for Rural Development*, May 24-26, Jelgava, Latvia, 2017. (Acceptance rate: NA%)
68. *M. Mellincovsky, M. Sitbon, M. M. Peretz, S. Schacham and A. Kuperman, "Transient response enhancement of PFC front end," in Proc. *25th Mediterranean Conference on Control and Automation (MED)*, Jul. 3 – 6, Valetta, Malta, 2017. (Acceptance rate: 40%)
69. *J. Kivimäki, T. Suntio and A. Kuperman, "Factors affecting validity of PVG-power settling time estimation in designing MPP-tracking perturbation frequency," in Proc. *43rd Annual Conference of the IEEE Industrial Electronics Society (IECON)*, Oct. 29 – Nov. 1, Beijing, China, 2017. (Acceptance rate: 30%)

70. *M. Mellincovsky, V. Yuhimenko, M. M. Peretz and A. Kuperman, " A novel capacitor sizing method for active DC link capacitance reduction circuit," in Proc. *19th IEEE Workshop on Control and Modeling for Power Electronics (COMPEL)*, Jun. 25 – 28, Padova, Italy, 2018. (Acceptance rate: 35%)
71. *A. Kuperman, "Controller design for second order systems to track sinusoidal signals with zero steady state error and prescribed transient response," in Proc. *3rd International Conference on Computer Algebra and Information Technologies*, pp. 7 – 10, Odessa, Ukraine, Aug. 20 – 25, 2018. (Acceptance rate: NA%)
72. *A. Mutovkin, S. Kolesnik, A. Belenky, S. Schacham and A. Kuperman, "Electronic capacitor realization for grid-connected power converters," in Proc. *20th European Conference on Power Electronics and Applications* (*EPE-ECCE Europe*), pp. 1 – 8, Riga, Latvia, Sep. 17 – 21, 2018. (Acceptance rate: 35%)
73. *M. Elkayam, M. Sitbon and A. Kuperman, "Loop gain oriented design of multiresonant current controllers," in Proc. *59th IEEE International Scientific Conference on Power and Electrical Engineering of Riga Technical University* (*RTUCON*), pp. 1 – 5, Riga, Latvia, Nov. 12 – 14, 2018. (Acceptance rate: NA%)
74. *E. Barbie, A. Kuperman and R. Rabinovici, "A novel active three-phase multilevel power factor correction rectifier – the "Negev" rectifier," in Proc. *2nd International Conference on the Science of Electrical Engineering (ISCEE)*, pp. 1 – 5, Eilat, Israel, Dec. 12 – 14, 2018. (Acceptance rate: NA%)
75. *I. Sassonker, M. Shvartsas, A. Shoihet and A. Kuperman, "Modeling of electromagnetic levitation melting system with experimental validation," in Proc. *2nd International Conference on the Science of Electrical Engineering (ISCEE)*, pp. 1 – 5, Eilat, Israel, Dec. 12 – 14, 2018 (**Best student paper award**). (Acceptance rate: NA%)
76. *M. Mellincovsky, V. Yuhimenko and A. Kuperman, "DC link auxiliary circuit implementation to improve transient response of grid-connected power converters," in Proc. *2nd International Conference on the Science of Electrical Engineering (ISCEE)*, pp. 1 – 5, Eilat, Israel, Dec. 12 – 14, 2018. (Acceptance rate: NA%)
77. *A. Mutovkin, M. Averbukh, S. Schacham, S. Kolesnik, A. Belenky and A. Kuperman, "Single-phase grid-connected photovoltaic system with electronic DC link," in Proc. *International Conference on Industrial Engineering, Applications and Manufacturing (ICIEAM)*, Sochi, Russia, Mar. 25 – 29, 2019. (Acceptance rate: NA%)
78. *M. Shahbari, K. Saadi, S. Kolesnik, M. Sitbon and A. Kuperman, "Influence of electricity tariffs on optimal solar collectors orientation in Negev region," in Proc. *18th International Scientific Conference on Engineering for Rural Development*, May 22-24, Jelgava, Latvia, 2019. (Acceptance rate: NA%)
79. *M. Elkayam, Y. Frechter, I. Sassonker and A. Kuperman, "Virtual impedance control for efficient power transfer in electromagnetic levitation melting system," in Proc. *Wireless Power Week*, London, UK, Jun. 17-21, 2019. (Acceptance rate: 35%)
80. *O. Trachtenberg, A. Shoihet, E. Beer, E. Fux, N. Tiktin, S. Kolesnik and A. Kuperman, "Quadrature demodulator based output voltage and load estimation of a resonant inductive WPT link," in Proc. *Wireless Power Week*, London, UK, Jun. 17-21, 2019. (Acceptance rate: 35%)
81. *Y. Frechter, Y. Darhovsky and A. Kuperman, "Output voltage range of a resonant inductive WPT link operating in load independent regime," in Proc. *Wireless Power Week*, London, UK, Jun. 17-21, 2019. (Acceptance rate: 35%)

* While working at BGU.

• **International Invited Lectures**

1. A. Kuperman, "Supercapacitor-assisted starting and peak load shaving in heavy-duty vehicles," given at *International Workshop on Supercapacitors and Energy Storage*, May 31 – Jun. 1, Salerno, Italy, 2018 .

* While working at BGU.

• **Patents**

1. A. Kuperman, A. Krasnopolski, "Water heating system and methods thereof," US Provisional Patent Application 61/564,314 (November 29, 2011).
2. M. Averbukh, S. Lineykin, A. Kuperman, "Ultracapacitor-based power source," US Provisional Patent Application 62/156,953 (May 19, 2015).
3. S. Lineykin, A. Kuperman, "Thermoelectric generator", US Provisional Patent Application 62/173,401 (June 10, 2015).
4. A. Kuperman, "Active electronic emulation of a passive circuit component", US Provisional Patent Application 62/403,153 (October 14, 2016).

• **Research Grants**

2009 – 2011 Ministry of Defense, 180,000$, Hybrid energy systems.
2010 – 2011 Better Place Inc., 60,000$, Fast charger development.
2010 – 2012 Ministry of Defense, 180,000$, Battery pack analysis and testing.
2011 – 2013 Ministry of Defense, 120,000$, Hybrid energy systems.
2012 – 2013 Israel Aerospace Industries, 70,000$, Supercapacitor based booster.
2012 – 2014 Rafael Advanced Defense Systems, 300,000$, Generic hybrid source.
2013 – 2014 Ministry of Defense, 70,000$, Solar power supply.
2013 – 2014 Ministry of Economy (Magnet), 30,000$, TEPS consortium.
2014 – 2015 Ministry of Defense, 60,000$, Hybrid energy systems.
2014 – 2015 Ministry of Defense, 60,000$, Supercapacitor based starter.
2014 – 2015 Tel-Aviv University, 30,000$, Virtual infinite capacitor.
2015 – 2016 Ministry of Defense, 110,000$, Hybrid energy systems.
2015 – 2016 Elbit Systems, 50,000$, Hybrid source simulator.
2015 – 2017 Ministry of Economy (Kamin), 240,000$, Electronic capacitor.
2016 – 2019 Ministry of Science (MOST), 200,000$, Hybrid system sizing.
2016 – 2017 Ministry of Defense, 120,000$, Hybrid energy systems.
2017 – 2018 Ministry of Economy (Nofar), 180,000$, Thermoelectric harvester.
2017 – 2018 Ministry of Defense, 120,000$, Hybrid energy systems.
2017 – 2018 Negev Nuclear Research Center, 130,000$, High current pulsar.
2017 – 2019 Cyber Security Research Center, 120,000$, Cyber-attack on power systems.
2018 – 2019 Ministry of Defense, 85,000$, Hybrid energy systems.
2018 – 2019 Ministry of Economy (Kamin), 125,000$, Wireless power transfer.
2018 – 2021 Ministry of Energy, 145,000$, Converters reliability enhancement.
2019 – 2020 Ministry of Defense, 42,500$, Hybrid energy systems.
2019 – 2023 The Israel Science Foundation (ISF), 340,000$, Switched resonant circuits.
2019 – 2020 Ministry of Economy (Kamin), 125,000$, Wireless power transfer.