

Mohsen N. Soltani
Associate Professor

Department of Energy Technology
The Faculty of Engineering and Science
Aalborg University Esbjerg
Esbjerg Energy Section

Postal address:
Niels Bohrs Vej 8
6700
Esbjerg
Denmark

Email: sms@et.aau.dk
Phone: +459940 8744



Employment

Associate Professor

AAU Energy
The Faculty of Engineering and Science
Aalborg Øst, Denmark
15 Feb 2005 → present

Associate Professor

The Faculty of Engineering and Science
Aalborg Øst, Denmark
15 Feb 2005 → present

Associate Professor

Esbjerg Energy Section
The Faculty of Engineering and Science
Esbjerg, Denmark
15 Feb 2005 → present

Offshore Renewable Energy Systems

The Faculty of Engineering and Science
Esbjerg, Denmark
1 Jan 2021 → present

Wind Power Systems

The Faculty of Engineering and Science
Aalborg Øst, Denmark
1 Jan 2021 → present

Research outputs

A Machine Learning Method for Modeling Wind Farm Fatigue Load

Miao, Y., Soltani, M. N. & Hajizadeh, A., Aug 2022, In: Applied Sciences (Switzerland). 12, 15, 7392.

EMD/HT-based local fault detection in DC microgrid clusters

Bayati, N., Baghaee, H. R., Savaghebi, M., Hajizadeh, A., Soltani, M. & Lin, Z., Jun 2022, In: IET Smart Grid. 5, 3, p. 177-188 12 p.

Local Fault Location in Meshed DC Microgrids Based On Parameter Estimation Technique

Bayati, N., Baghaee, H. R., Hajizadeh, A., Soltani, M., Lin, Z. & Savaghebi, M., 1 Mar 2022, In: IEEE Systems Journal. 16, 1, p. 1606-1615 10 p.

Locating high-impedance faults in DC microgrid clusters using support vector machines

Bayati, N., Balouji, E., Baghaee, H. R., Hajizadeh, A., Soltani, M., Lin, Z. & Savaghebi, M., Feb 2022, In: Applied Energy. 308, 118338.

Active Load Stabilization of Cascaded Systems in DC Microgrids Using Adaptive Parallel-Virtual-Resistance Control Scheme

Lorzadeh, O., Lorzadeh, I., N. Soltani, M., Hajizadeh, A. & Jessen, K., 2022, (E-pub ahead of print) In: I E E E Journal of Emerging and Selected Topics in Power Electronics.

System Identifications, Validation and Overall Mathematical Modeling of Small Scale Wind Turbine

Qureshi, A. F., Hajizadeh, A. & N. Soltani, M., 1 Nov 2021, p. 1-7. 7 p.

DC Fault Current Analyzing, Limiting, and Clearing in DC Microgrid Clusters

Bayati, N., Baghaee, H. R., Savaghebi, M., Hajizadeh, A., Soltani, M. N. & Lin, Z., 4 Oct 2021, In: Energies. 14, 19, 6337.

Localized Protection of Radial DC Microgrids with High Penetration of Constant Power Loads

Bayati, N., Baghaee, H. R., Hajizadeh, A. & N. Soltani, M., Sep 2021, In: I E E E Systems Journal. 15, 3, p. 4145-4156 12 p.

Overcoming the Detectability Obstacle in Adaptive Output Feedback Control of DC-DC Boost Converter With Unknown Load

Tavan, M., Sabahi, K., Hajizadeh, A., Soltani, M. N. & Jessen, K., Sep 2021, In: IEEE Transactions on Control Systems Technology. 29, 6, p. 2678 - 2686

Wind farm power optimization and fault ride-through under inter-turn short-circuit fault

Ma, K., Soltani, M., Hajizadeh, A., Zhu, J. & Chen, Z., Jun 2021, In: Energies. 14, 11, 16 p., 3072.

A Localized-Protection Scheme for Ring DC Microgrids using Distribution-Sensitive Poverty Index

Bayati, N., Aghaee, F., Hajizadeh, A., Soltani, M. & Lin, Z., 4 Feb 2021, *2021 12th Power Electronics, Drive Systems, and Technologies Conference (PEDSTC)*. IEEE Communications Society, p. 1-5 5 p. 9405880

Source-Side Virtual RC Damper-Based Stabilization Technique for Cascaded Systems in DC Microgrids

Lorzadeh, O., Lorzadeh, I., Soltani, M. & Hajizadeh, A., 1 Feb 2021, In: IEEE Transactions on Energy Conversion. 36, 3, p. 1883-1895 13 p., 9343755.

Attitude stabilization of Marine Satellite Tracking Antenna using Model Predictive Control

Wang, Y., N. Soltani, M. & Hussain, D. M. A., 2021, In: IFAC Journal of Systems and Control. 17, 100173.

Mathematical morphology-based local fault detection in DC Microgrid clusters

Bayati, N., Baghaee, H. R., Hajizadeh, A., Soltani, M. & Lin, Z., 2021, In: Electric Power Systems Research. 192, 106981.

Output Feedback Control of DC-DC Converters with Unknown Load: An Application of II Based Filtered Transformation

Tavan, M., Sabahi, K., Hajizadeh, A., Soltani, M. & Savaghebi, M., 2021, *60th IEEE Conference on Decision and Control, CDC 2021*. IEEE, p. 4725-4729 5 p. (Proceedings of the IEEE Conference on Decision and Control, Vol. 2021-December).

Predictive Home Energy Management System with Photovoltaic Array, Heat Pump and Plug-in Electric Vehicle

Yousefi, M., Hajizadeh, A., N. Soltani, M. & Hredzak, B., 2021, In: I E E E Transactions on Industrial Informatics. 17, 1, p. 430-440 11 p., 8982073.

Profit assessment of home energy management system for buildings with A-G energy labels

Yousefi, M., Hajizadeh, A., N. Soltani, M., Hredzak, B. & Kianpoor, N., Nov 2020, In: Applied Energy. 277, 13 p., 115618.

An artificial intelligence approach to fault isolation based on sensor data in Tennessee Eastman process

Zarch, M. G. & Soltani, M., 18 Oct 2020, *IECON 2020 : The 46th Annual Conference of the IEEE Industrial Electronics Society*. IEEE, p. 417-422 6 p. 9255330. (Proceedings of the Annual Conference of the IEEE Industrial Electronics Society).

Active power optimisation for wind farms under generator inter-turn short-circuit fault

Ma, K., N. Soltani, M., Hajizadeh, A., Zhu, J. & Chen, Z., Sep 2020, In: *IET Renewable Power Generation*. 14, 12, p. 2079-2088 10 p.

Guest Editorial: Power quality and protection in renewable energy systems and microgrids

Hajizadeh, A., Savaghebi, M., Guerrero, J. M., Soltani, M., Aminifar, F., Su, C. L., Hoff, B. & Lin, Z., Sep 2020, In: *IET Renewable Power Generation*. 14, 12, p. 2035-2036 2 p.

Sensor Fault Detection for Line Regulating Converters supplying Constant Power Loads in DC Microgrids

Jessen, K., Soltani, M. & Hajizadeh, A., Sep 2020, *2020 IEEE 11th International Symposium on Power Electronics for Distributed Generation Systems, PEDG 2020*. IEEE Signal Processing Society, p. 99-103 5 p. 9244467. (IEEE International Symposium on Power Electronics for Distributed Generation Systems (PEDG)).

A Fuse Saving Scheme for DC Microgrids with High Penetration of Renewable Energy Resources

Bayati, N., Baghaee, H. R., Hajizadeh, A. & Soltani, M., Jul 2020, In: *IEEE Access*. 8, p. 137407-137417 11 p., 9149893.

Blockchain-based protection schemes of DC microgrids

Bayati, N., Hajizadeh, A. & N. Soltani, M., May 2020, *Blockchain-Based Smart Grids*. 1 ed. Academic Press, p. 195-214 25 p.

H_∞-Based Robust Controller for Step-Down Non-Isolated DC/DC Converter Loaded by Constant Power Load in DC Microgrids

Lorzadeh, O., Lorzadeh, I., N. Soltani, M. & Hajizadeh, A., May 2020, *2020 11th International Power Electronics, Drive Systems and Technologies Conference (PEDSTC)*. IEEE, 9088490

Early Detection of Coil Failure in Solenoid Valves

Liniger, J., Stubbier, S., N. Soltani, M. & Pedersen, H. C., Apr 2020, In: *IEEE - ASME Transactions on Mechatronics*. 25, 2, p. 683-693 11 p., 8974206.

Net-Zero Energy Buildings: Modeling, Real-Time Operation and Protection

Kianpoor, N., Bayati, N., Yousefi, M., Hajizadeh, A. & N. Soltani, M., Mar 2020, *Food-Energy-Water Nexus Resilience and Sustainable Development: Decision-Making Methods, Planning, and Trade-Off Analysis*. 1 ed. Springer, p. 141-179 39 p.

A Distribution-Sensitive Poverty Index-Based Protection Scheme for Interconnected DC Microgrids

Bayati, N., Hajizadeh, A., N. Soltani, M. & Lin, Z., 2020, *The 15th International Conference on Developments in Power System Protection*. IET

An artificial intelligence approach to fault isolation based on sensor data

Narmak, M. G. Z. & N. Soltani, M., 2020, (Unpublished) In: *Sensors*.

Inter-Turn Short-Circuit Fault-Ride-Through for DFIG Wind Turbines

Ma, K., Zhu, J., N. Soltani, M., Hajizadeh, A. & Chen, Z., 2020, *The 21st IFAC World Congress*. Findeisen, R., Hirche, S., Janschek, K. & Mönnigmann, M. (eds.). 2 ed. Germany: IFAC Publisher, Vol. 53. p. 12757-12762 6 p. (IFAC-PapersOnLine).

Fault Analysis and Protection of low-voltage DC Microgrid Equipped by Renewable Energy Resources

Bayati, N., Hajizadeh, A. & N. Soltani, M., Sep 2019, *Handbook of Research on Recent Developments in Electrical and Mechanical Engineering*. IGI global, p. 341-375 35 p.

A Comparison Study on Stochastic Modeling Methods for Home Energy Management System

Yousefi, M., Hajizadeh, A. & N. Soltani, M., Aug 2019, In: IEEE Transactions on Industrial Informatics. 15, 8, p. 4799 - 4808 10 p.

System Identification and model comparison of a Tension Leg Platform for Floating Offshore Wind Turbines

Hansen, T., Jørgensen, M. A. B., Tran, V. R., Jessen, K. & N. Soltani, M., Aug 2019, *2019 24th International Conference on Methods and Models in Automation and Robotics, MMAR 2019*. IEEE Press, p. 410-415 6 p. 8864710

A Novel Active Stabilizer Method for DC/DC Power Converter Systems Feeding Constant Power Loads

Lorzadeh, O., Lorzadeh, I., N. Soltani, M. & Hajizadeh, A., Jun 2019, *Proceedings of 2019 IEEE 28th International Symposium on Industrial Electronics (ISIE)*. IEEE Press, p. 2497-2502 6 p. 8781375. (IEEE International Symposium on Industrial Electronics (ISIE)).

Fractional Order Modelling of DC-DC Boost Converters

Kianpoor, N., Yousefi, M., Bayati, N., Hajizadeh, A. & N. Soltani, M., Jun 2019, *Proceedings of 2019 IEEE 28th International Symposium on Industrial Electronics (ISIE)*. IEEE Press, p. 864-869 6 p. 8781387. (IEEE International Symposium on Industrial Electronics (ISIE)).

High Voltage Gain Quasi-SEPIC DC-DC Converter

Siwakoti, Y. P., Mostaan, A., Abdelhakim, A., Davari, P., Soltani, M. N., Khan, N. H., Li, L. & Blaabjerg, F., Jun 2019, In: *E E E Journal of Emerging and Selected Topics in Power Electronics*. 7, 2, p. 1243-1257 15 p., 8419732.

Localized Fault Protection in the DC Microgrids with Ring Configuration

Bayati, N., Hajizadeh, A. & N. Soltani, M., Jun 2019, *Proceedings of 2019 IEEE 28th International Symposium on Industrial Electronics (ISIE)*. IEEE Press, p. 136-140 5 p. 8781176. (IEEE International Symposium on Industrial Electronics (ISIE)).

Smart Energy Management System for Residential Homes Regarding Uncertainties of Photovoltaic Array and Plug-in Electric Vehicle

Yousefi, M., Kianpoor, N., Hajizadeh, A. & N. Soltani, M., Jun 2019, *Proceedings of 2019 IEEE 28th International Symposium on Industrial Electronics (ISIE)*. IEEE Press, p. 2201-2206 6 p. 8781471. (IEEE International Symposium on Industrial Electronics (ISIE)).

Stochastic Smart Charging of Electric Vehicles for Residential Homes with PV Integration

Yousefi, M., Kianpoor, N., Hajizadeh, A. & N. Soltani, M., 23 Apr 2019, *Proceedings of 2019 10th International Power Electronics, Drive Systems and Technologies Conference (PEDSTC)*. IEEE Press, p. 377-382 6 p. 8697231

Experimental Validation of Aero-Hydro-Servo-Elastic Models of a Scaled Floating Offshore Wind Turbine

Jessen, K., Laugesen, K., Mortensen, S. M., Kirkegaard Jensen, J. & N. Soltani, M., Mar 2019, In: *Applied Sciences*. 9, 6, 28 p., 1244.

Optimal Power Dispatch of an Offshore Wind Farm under Generator Fault

Ma, K., zhu, J., N. Soltani, M., Hajizadeh, A. & Chen, Z., Mar 2019, In: *Applied Sciences*. 9, 6, 17 p., 1184.

FAST model of the scaled offshore floating wind turbine AAUE-TLP

Jessen, K. & N. Soltani, M., 2019

ANFIS Based Approach for Stochastic Modeling of Smart Home

Yousefi, M., Kianpoor, N., Hajizadeh, A. & N. Soltani, M., Dec 2018, *Proceedings of 2018 2nd European Conference on Electrical Engineering and Computer Science (EECS)*. IEEE Press

Application of Boost Converter to Increase the Speed Range of Dual-stator Winding Induction Generator in Wind Power Systems

Kavousi, A., Fathi, S. H., Milimonfared, J. & N. Soltani, M., 1 Nov 2018, In: *IEEE Transactions on Power Electronics*. 33, 11, p. 9599-9610 12 p., 8267304.

Experimental Verification of the Hydro-elastic Model of A Scaled Floating Offshore Wind Turbine

Mortensen, S. M., Laugesen, K., Kirkegaard Jensen, J., Jessen, K. & N. Soltani, M., 26 Oct 2018, *Proceedings of the 2nd IEEE Conference on Control Technology and Applications: CCTA*. IEEE Press, p. 1623-1630 8 p. 8511565

Accurate Modeling of DC Microgrid for Fault and Protection Studies

Bayati, N., Hajizadeh, A. & N. Soltani, M., 17 Oct 2018, *2018 International Conference on Smart Energy Systems and Technologies, SEST 2018 - Proceedings*. IEEE Press, p. 1-6 6 p. 8495679

Protection in DC microgrids: A comparative review

Bayati, N., Hajizadeh, A. & N. Soltani, M., Oct 2018, In: *IET Smart Grid*. 1, 3, p. 66-75 10 p.

Experimental Modelling of a Floating Offshore Wind Turbine

Lindquist, C., Nielsen, P. N., Pedersen, R. & N. Soltani, M., Aug 2018, *Proceedings of the 23rd International Conference on Methods and Models in Automation and Robotics, MMAR*. IEEE Press, p. 327-332 6 p. 8485979

Cable Connection Scheme Optimization for Offshore Wind Farm Considering Wake Effect

Hou, P., Yang, G., Hu, W., Chen, C., Soltani, M. & Chen, Z., Jul 2018, *Proceedings of the 2018 IEEE Congress on Evolutionary Computation, CEC 2018*. IEEE Press, p. 1-8 8 p. 8477866

Active Power Dispatch Strategy of Wind Farms under Generator Faults

Ma, K., Zhu, J., N. Soltani, M., Hajizadeh, A., Hou, P. & Chen, Z., Jun 2018, *Proceedings of the European Safety and Reliability Conference 2018: Safe Societies in a Changing World*. Haugen, S., Barros, A., Gulijk, C. V., Kongsvik, T. & Vinnem, J. E. (eds.). 1 ed. London, UK: CRC Press, p. 2147-2152 6 p.

Feasibility Study of a Simulation Driven Approach for Estimating Reliability of Wind Turbine Fluid Power Pitch Systems

Liniger, J., N. Soltani, M., Pedersen, H. C. & Sepehri, N., Jun 2018, *Safety and Reliability – Safe Societies in a Changing World: Proceedings of the 28th International European Safety and Reliability Conference (ESREL 2018), Trondheim, Norway, 17–21 June 2018*. Haugen, S., Barros, A., van Gulijk, C., Kongsvik, T. & Vinnem, J. E. (eds.). 1 ed. CRC Press/Balkema, p. 2037-2044 8 p.

Impact of Faults and Protection Methods on DC Microgrids Operation

Bayati, N., Hajizadeh, A. & N. Soltani, M., Jun 2018, *Proceedings - 2018 IEEE International Conference on Environment and Electrical Engineering and 2018 IEEE Industrial and Commercial Power Systems Europe, IEEEIC/I and CPS Europe 2018*. IEEE Press, p. 1-6 6 p. 8494631

Optimized Power Dispatch in Wind Farms for Power Maximizing Considering Fatigue Loads

Zhang, B., N. Soltani, M., Hu, W., Hou, P., Huang, Q. & Chen, Z., Apr 2018, In: *IEEE Transactions on Sustainable Energy*. 9, 2, p. 862-871 10 p.

Energy Management strategies for Smart Home Regarding Uncertainties: State of the art, Trends, and Challenges

Yousefi, M., Hajizadeh, A. & N. Soltani, M., Feb 2018, *Proceedings - 2018 IEEE International Conference on Industrial Technology, ICIT 2018*. IEEE, p. 1219-1225 7 p.

A Switched-Boost DC/DC Converter with High Voltage Gain and Continuous Input Current

Mostaan, A., Abdelhakim, A., N. Soltani, M. & Blaabjerg, F., 2018, *IEEE Applied Power Electronics Conference and Exposition (APEC) 2018: APEC 2018*. IEEE Press, p. 1540-1545 6 p.

Comparison of loads for wind turbine down-regulation strategies

Zhu, J., Ma, K., N. Soltani, M., Hajizadeh, A. & Chen, Z., Dec 2017, *Proceedings 2017 11th Asian Control Conference (ASCC)*. IEEE Press, 6 p.

Fault Detection and Isolation for Wind Turbine Electric Pitch System

Zhu, J., Ma, K., Hajizadeh, A., N. Soltani, M. & Chen, Z., Dec 2017, *Proceedings of 2017 IEEE 12th International Conference on Power Electronics and Drive Systems (PEDS)*. IEEE Press, p. 618-623 6 p. (IEEE International Conference on Power Electronics and Drive Systems).

Wind Turbine Down-regulation Strategy for Minimum Wake Deficit

Ma, K., Zhu, J., N. Soltani, M., Hajizadeh, A. & Chen, Z., Dec 2017, *Proceedings of 2017 11th Asian Control Conference (ASCC)*. IEEE Press, p. 2652 - 2656 5 p.

Corrigendum to "Combined optimization for offshore wind turbine micro siting" [Appl. Energy 189 (2017) 271–282]

Hou, P., Hu, W., Soltani, M., Chen, C. & Chen, Z., 1 Nov 2017, In: *Applied Energy*. 205, p. 1609 1 p.

Model-based Estimation of Gas Leakage for Fluid Power Accumulators in Wind Turbines

Liniger, J., Pedersen, H. C. & N. Soltani, M., Oct 2017, *Proceedings of ASME/BATH 2017 Symposium on Fluid Power and Motion Control*. American Society of Mechanical Engineers, 10 p. FPMC2017-4253

Risk-based Comparative Study of Fluid Power Pitch Concepts

Liniger, J., Pedersen, H. C. & N. Soltani, M., Oct 2017, *Proceedings of ASME/BATH 2017 Symposium on Fluid Power & Motion Control*. American Society of Mechanical Engineers, 9 p.

Single Phase Transformer-less Buck-Boost Inverter with Zero Leakage Current for PV Systems

Mostaan, A., Abdelhakim, A., N. Soltani, M. & Blaabjerg, F., Oct 2017, *Proceedings of 43rd Annual Conference of the IEEE Industrial Electronics Society, IECON 2017*. IEEE Press, p. 1536-1543 8 p.

A Novel Single Switch Transformerless Quadratic DC/DC Buck-Boost Converter

Mostaan, A., A. Gorji, S., N. Soltani, M. & Ektesabi, M., Sep 2017, *Proceedings of 2017 19th European Conference on Power Electronics and Applications (EPE'17 ECCE Europe)*. IEEE, 6 p.

A Transformer-less Single Phase Inverter For photovoltaic Systems

Mostaan, A., Alizadeh, E., Qu, Y. & Soltani, M., Sep 2017, *Proceedings of 2017 19th European Conference on Power Electronics and Applications (EPE'17 ECCE Europe)*. IEEE Press, 9 p. 8099008

Intelligent Power Control of DC Microgrid

Hajizadeh, A., N. Soltani, M. & Norum, L., Sep 2017, *Proceedings of 2017 IEEE 17th International Conference on Ubiquitous Wireless Broadband (ICUWB)*. IEEE Press, 5 p. (IEEE International Conference on Ultra-Wideband (ICUWB)).

Failure Mode and Effect Analysis for Wind Turbine Systems in China

Zhu, J., Ma, K., N. Soltani, M. & Chen, Z., Jun 2017, *Safety and Reliability. Theory and Applications*. CRC Press, p. 2417–2421 5 p.

Optimal Tuning of Multivariable Disturbance-Observer-Based Control for Flicker Mitigation Using Individual Pitch Control of Wind Turbine

Raja, M. I., Hussain, D. M. A., Soltani, M. & Raja, M. R., Jun 2017, In: *IET Renewable Power Generation*. 11, 8, p. 1121 – 1128 8 p.

Reliability Based Design of Fluid Power Pitch Systems for Wind Turbines

Liniger, J., N. Soltani, M., Pedersen, H. C., Carroll, J. & Sepehri, N., May 2017, In: *Wind Energy*. 20, 6, p. 1097-1110 14 p.

Ship Attitude Prediction Based on Input Delay Neural Network and Measurements of Gyroscopes

Wang, Y., N. Soltani, M. & Hussain, D. M. A., May 2017, *Proceedings of 2017 American Control Conference (ACC)*. IEEE Press, p. 4901-4907 7 p.

An Attitude Heading and Reference System For Marine Satellite Tracking Antenna

Wang, Y., Soltani, M. & Hussain, D. M. A., Apr 2017, In: *IEEE Transactions on Industrial Electronics*. 64, 4, p. 3095 - 3104 10 p.

Offshore Wind Farm Layout Design Considering Optimized Power Dispatch Strategy

Hou, P., Hu, W., N. Soltani, M., Chen, C., Zhang, B. & Chen, Z., Apr 2017, In: *IEEE Transactions on Sustainable Energy*. 8, 2, p. 638-647 9 p.

A Novel Quasi-SEPIC High-Voltage Boost DC-DC Converter

Siwakoti, Y. P., N. Soltani, M., Blaabjerg, F. & Mostaan, A., Mar 2017, *Proceedings of the 2017 IEEE Applied Power Electronics Conference and Exposition (APEC)*. IEEE Press, p. 2213-2216 4 p.

Combined Optimization for Offshore Wind Turbine Micro Siting

Hou, P., Hu, W., N. Soltani, M., Chen, C. & Chen, Z., Mar 2017, In: *Applied Energy*. 189, p. 271–282 12 p.

Signal-based Gas Leakage Detection for Fluid Power Accumulators in Wind Turbines

Liniger, J., Sepehri, N., N. Soltani, M. & Pedersen, H. C., Mar 2017, In: *Energies*. 10, 3, 18 p., 331.

Wind Turbine Power Curve Design for Optimal Power Generation in Wind Farms Considering Wake Effect

Tian, J., Zhou, D., Su, C., N. Soltani, M., Chen, Z. & Blaabjerg, F., Mar 2017, In: *Energies*. 10, 3, 19 p., 395.

Review of reactive power dispatch strategies for loss minimization in a DFIG-based wind farm

Zhang, B., Hu, W., Hou, P., Tan, J., Soltani, M. & Chen, Z., 2017, In: *Energies*. 10, 7, 17 p., 856.

A Novel Quadratic Buck-Boost DC-DC Converter without Floating Gate-Driver

Mostaan, A., A. Gorji, S., N. Soltani, M. & Ektesabi, M., Dec 2016, *Proceedings of the 2nd IEEE Southern Power Electronics Conference (SPEC), 2016*. IEEE Press, 5 p.

Hybrid Impedance Network-Based Converter With High Voltage Gain and No Commutation Problem

Mostaan, A., N. Soltani, M. & A. Gorji, S., Dec 2016, *Proceedings of the 2nd IEEE Southern Power Electronics Conference (SPEC), 2016*. IEEE Press, 4 p.

Family of Step-up DC/DC Converters with Fast Dynamic Response for Low Power Applications

N. Soltani, M., Mostaan, A., Siwakoti, Y. P., Davari, P. & Blaabjerg, F., Nov 2016, In: *IET Power Electronics*. 9, 14, p. 2665 - 2673 9 p.

Optimization of offshore wind farm layout in restricted zones

Hou, P., Hu, W., Chen, C., N. Soltani, M. & Chen, Z., Oct 2016, In: *Energy*. 113, p. 487–496 10 p.

Sliding Mode Control of PMSG Wind Turbine Based on Enhanced Exponential Reaching Law

Mozayan, S. M., Saad, M., Vahedi, H., Fortin-Blanchette, H. & Soltani, M., Oct 2016, In: *IEEE Transactions on Industrial Electronics*. 63, 10, p. 6148 - 6159 12 p.

An Estimator for Attitude and Heading Reference Systems Based on Virtual Horizontal Reference

Wang, Y., Soltani, M. & Hussain, D. M. A., Jul 2016, *Proceedings of 2016 American Control Conference*. American Automatic Control Council, p. 5504 - 5510 7 p.

A New Approach for Offshore Wind Farm Energy Yields Calculation with Mixed Hub Height Wind Turbines

Hou, P., Hu, W., Soltani, M. & Chen, Z., Jul 2016, *Proceedings of the IEEE Power & Energy Society General Meeting (PESGM), 2016*. IEEE Press, 5 p.

A Reactive Power Dispatch Strategy with Loss Minimization for a DFIG Based Wind Farm

Zhang, B., Hou, P., Hu, W., Soltani, M., Chen, C. & Chen, Z., Jul 2016, In: *IEEE Transactions on Sustainable Energy*. 7, 3, p. 914-923 10 p.

A Wind Farm Active Power Dispatch Strategy for Fatigue Load Reduction

Zhang, B., N. Soltani, M., Hu, W., Hou, P. & Chen, Z., Jul 2016, *Proceedings of American Control Conference (ACC), 2016*. American Automatic Control Council, p. 5879 - 5884 6 p.

Coordinated Power Dispatch of a PMSG based Wind Farm for Output Power Maximizing Considering the Wake Effect and Losses

Zhang, B., Hu, W., Hou, P., Soltani, M. & Chen, Z., Jul 2016, *Proceedings of the IEEE Power & Energy Society General Meeting (PESGM), 2016*. IEEE Press, 5 p.

Optimization of Decommission Strategy for Offshore Wind Farms

Hou, P., Hu, W., Soltani, M., Zhang, B. & Chen, Z., Jul 2016, *Proceedings of the IEEE Power & Energy Society General Meeting (PESGM), 2016*. IEEE Press, 5 p.

An Experimental Analysis of the Effect of Icing on Wind Turbine Rotor Blades

Raja, M. I., Hussain, D. M. A. & Soltani, M., May 2016, *Proceedings of IEEE/PES Transmission and Distribution Conference and Exposition (T&D), 2016*. IEEE Press, 5 p.

An adaptive Multiplicative Extended Kalman Filter for Attitude Estimation of Marine Satellite Tracking Antenna

Wang, Y., Soltani, M. & Hussain, D. M. A., Apr 2016, *Proceedings of OCEANS 2016 - Shanghai*. IEEE Press, 5 p.

Dynamic Modeling and Simulation of Marine Satellite Tracking Antenna Using Lagrange Method

Wang, Y., Soltani, M. & Hussain, D. M. A., Apr 2016, *Proceedings of UKSim-AMSS 18th International Conference on Computer Modelling and Simulation (UKSim)*. IEEE Press, p. 135 - 140 6 p.

A Nonlinear Attitude Estimator for Attitude and Heading Reference Systems Based on MEMS Sensors

Wang, Y., Soltani, M. & Hussain, D. M. A., Mar 2016, *Proceedings of SICE International Symposium on Control Systems (ISCS) 2016*. IEEE Press, p. 23 - 30 8 p. 7470176

Optimized Power Dispatch Strategy for Offshore Wind Farms

Hou, P., Hu, W., Zhang, B., Soltani, M., Chen, C. & Chen, Z., 2016, In: *IET Renewable Power Generation*. 10, 3, p. 399-409 11 p.

A Novel Energy Yields Calculation Method for Irregular Wind Farm Layout

Hou, P., Hu, W., Soltani, M. & Chen, Z., Nov 2015, *Proceedings of the IECON2015, Yokohama, Nov 2015*. IEEE Press, p. 000380 - 000385 6 p.

Wind Farm Active Power Dispatch for Output Power Maximizing Based on a Wind Turbine Control Strategy for Load Minimizing

Zhang, B., Hu, W., Hou, P., Soltani, M. & Chen, Z., Nov 2015, *International Conference on Sustainable Mobility Applications, Renewables and Technology (SMART), 2015*. IEEE Press, p. 1-6 6 p.

A Family of Four Quadrant DC/DC Converters with Reduced Number of Components

Mostaan, A. & Soltani, M., Oct 2015, *Proceedings of the 2015 IEEE International Telecommunications Energy Conference (INTELEC)*. Osaka, Japan: IEEE Press, 6 p.

Optimized Placement of Wind Turbines in Large-Scale Offshore Wind Farm using Particle Swarm Optimization Algorithm

Hou, P., Hu, W., Soltani, M. & Chen, Z., Oct 2015, In: *IEEE Transactions on Sustainable Energy*. 6, 4, p. 1272 - 1282 11 p.

Reliable Fluid Power Pitch Systems: A review of state of the art for design and reliability evaluation of fluid power systems

Liniger, J., Pedersen, H. C. & Soltani, M., Oct 2015, *Proceedings of the ASME/BATH 2015 Symposium on Fluid Power & Motion Control*. American Society of Mechanical Engineers, p. 1-11 10 p.

A MEMS-based Adaptive AHRS for Marine Satellite Tracking Antenna

Wang, Y., Hussain, D. M. A. & Soltani, M., Aug 2015, In: *IFAC-PapersOnLine*. 48, 16, p. 121-126 4 p.

Fatigue Load Modeling and Control for Wind Turbines based on Hysteresis Operators

Barradas Berglind, J. D. J., Wisniewski, R. & Soltani, M., 1 Jul 2015, *American Control Conference (ACC), 2015*. IEEE Press, p. 3721-3727 7 p. (American Control Conference).

Fatigue Damage Estimation and Data-based Control for Wind Turbines

Barradas Berglind, J. D. J., Wisniewski, R. & Soltani, M., 23 Apr 2015, In: IET Control Theory & Applications. 9, 7, p. 1042 – 1050 9 p.

DAC to Mitigate the Effect of Periodic Disturbances on Drive Train using Collective Pitch for Variable Speed Wind Turbine

Imran, R. M., Hussain, D. M. A. & Soltani, M., Mar 2015, *Proceedings of the 2015 IEEE International Conference on Industrial Technology (ICIT)*. Seville, Spain: IEEE Press, p. 2588 - 2593 6 p.

Novel T-Z source inverter with high voltage gain and reduced transformer turn ratio

Mostaan, A., Sharifi Malfejani, S., Soltani, M. & Baghrmian, A., Feb 2015, *Proceedings of the 2015 6th Power Electronics, Drives Systems & Technologies Conference (PEDSTC)*. IEEE Press, p. 178 - 182 5 p.

Active Power Dispatch Method for a Wind Farm Central Controller Considering Wake Effect

Tian, J., Su, C., N. Soltani, M. & Chen, Z., Nov 2014, *Proceedings of the 40th Annual Conference of IEEE Industrial Electronics Society, IECON 2014*. IEEE Press, p. 5450 - 5456 7 p. (Proceedings of the Annual Conference of the IEEE Industrial Electronics Society).

DAC with LQR Control Design for Pitch Regulated Variable Speed Wind Turbine

Imran, R. M., Hussain, D. M. A. & Soltani, M., Oct 2014, *Proceedings of the 2014 IEEE International Telecommunications Energy Conference (INTELEC)*. Vancouver, BC, Canada: IEEE Press, p. 1-6 6 p. (International Telecommunications Energy Conference. Proceedings).

Novel Step-Up DC/DC Converter with No Right Half Plane Zero and Reduced Switched Voltage Stress Characteristics

Mostaan, A., Alizadeh, E. & Soltani, M., Oct 2014, *Proceedings of the 2014 IEEE International Telecommunications Energy Conference (INTELEC)*. Vancouver, BC, Canada: IEEE Press, 7 p. (International Telecommunications Energy Conference. Proceedings).

Controller Design for Blade Load Reduction Using Synthetic Jets

Soltani, M. & Mirzaei, M., Jun 2014, *Proceedings of the 2014 American Control Conference (ACC)*. IEEE Press, p. 4440-4445 6 p. (American Control Conference).

Model Based Active Power Control of a Wind Turbine

Mirzaei, M., Soltani, M., Poulsen, N. K. & Niemann, H. H., Jun 2014, *Proceedings of the 2014 American Control Conference (ACC)*. IEEE Press, p. 5037-5042 6 p. (American Control Conference).

Model Predictive Control of Buoy Type Wave Energy Converter

Soltani, M., Sichani, M. T. & Mirzaei, M., 2014, *Proceedings of the 19th IFAC World Congress, 2014*. Boje, E. & Xia, X. (eds.). IFAC Publisher, p. 11159-11164 6 p. (I F A C Workshop Series; No. Part 1, Vol. 19).

Estimation of Rotor Effective Wind Speed: A Comparison

Soltani, M., Knudsen, T., Svenstrup, M., Wisniewski, R., Brath, P., Ortega, R. & Johnson, K., Jul 2013, In: I E E E Transactions on Control Systems Technology. 21, 4, p. 1155-1167 13 p.

An MPC approach to individual pitch control of wind turbines using uncertain LIDAR measurements

Mirzaei, M., Soltani, M., Poulsen, N. K. & Niemann, H. H., 2013, *Proceedings of the 2013 European Control Conference, ECC*. IEEE Press, p. 490-495 6 p.

Model Predictive Control of Wind Turbines using Uncertain LIDAR Measurements

Mirzaei, M., Soltani, M., Poulsen, N. K. & Niemann, H. H., 2013, *Proceedings of the American Control Conference, ACC 2013*. American Automatic Control Council, p. 2235-2240 6 p. (American Control Conference).

Preview-based Asymmetric Load Reduction of Wind Turbines

Madsen, M., Filsø, J. & Soltani, M., 2012, In: IEEE International Conference on Control Applications.

Robust Parametric Fault Estimation in a Hopper System

Soltani, M., Izadi-Zamanabadi, R., Wisniewski, R., Belau, W. & Le Gonidec, S., 2012, *7th IFAC Symposium on Robust Control Design*. Elsevier, Vol. 7. p. 491-498 8 p. (I F A C Workshop Series).

Prediction models for wind speed at turbine locations in a wind farm

Knudsen, T., Bak, T. & Soltani, M., 8 Aug 2011, In: *Wind Energy*. 14, 7, p. 877-894

Estimation of Wind Turbulence Using Spectral Models

Soltani, M., Knudsen, T. & Bak, T., 2011, In: *IEEE Conference on Computer-Aided Control Systems Design*. p. 1197-1201

Load Reduction of Wind Turbines Using Receding Horizon Control

Soltani, M., Wisniewski, R., Brath, P. & Boyd, S., 2011, In: *IEEE International Conference on Control Applications*. p. 852-857 6 p.

Aeolus Toolbox for Dynamics Wind Farm Model, Simulation and Control

Grunnet, J. D., Soltani, M., Knudsen, T., Kragelund, M. N. & Bak, T., 2010, *European Wind Energy Conference and Exhibition, EWEC 2010 : Conference Proceedings*.

Multi-Zone hybrid model for failure detection of the stable ventilation systems

Gholami, M., Schiøler, H., Soltani, M. & Bak, T., 2010, *2010 IEEE International Symposium on Industrial Electronics, ISIE*. IEEE Press, p. 262 - 267

Reliable Control of Ship-mounted Satellite Tracking Antenna

Soltani, M., Izadi-Zamanabadi, R. & Wisniewski, R., 2010, In: *IEEE Transactions on Control Systems Technology*. PP, 99, p. 1 - 8 8 p.

Wind Farm Decentralized Dynamic Modeling With Parameters: AEOLUS EU-report, Deliverable 2.3

Soltani, M., Shakeri, S. M., Grunnet, J. D., Knudsen, T. & Bak, T., 2010, 32 p.

Distributed Control of Large-Scale Offshore Wind Farms

Knudsen, T., Bak, T. & Soltani, M., 2009. 8 p.

Modeling and Simulation of Offshore Wind Farms for Farm Level Control

Soltani, M., Knudsen, T. & Bak, T., 2009, *Proceedings of The European Offshore Wind 2009*.

Prediction Models for Wind Speed at Turbines in a Farm with Application to Control

Knudsen, T., Soltani, M. & Bak, T., 2009, *Extended Abstracts for Euromech Colloquium 508 on Wind Turbine Wakes*. E.T.S.I. Industriales Universidad Politécnica de Madrid

Preliminary Description of Wind Farm Models and Case Study

Soltani, M., 2009, Aalborg Universitet. 38 p.

Preliminary Dynamic Model - Aeolus - WP2

Knudsen, T. & Soltani, M., 2009, Aalborg Universitet.

Simulation Models for Case Study - Aeolus - WP5

Soltani, M., Knudsen, T. & Bak, T., 2009, Aalborg Universitet.

Fault Detection and Identification for Hopper Space Shuttle

Soltani, M. & Izadi-Zamanabadi, R., 2008, Department of Computer Science, Aalborg University. 108 p.

Fault Diagnosis and Fault Tolerant Control of A Ship-mounted Satellite Tracking Antenna

Soltani, M., 2008, Aalborg: Department of Control Engineering, Aalborg University. 138 p.

Parametric fault estimation based on H^∞ optimization in a satellite launch vehicle

Soltani, M., Izadi-Zamanabadi, R. & Stoustrup, J., 2008, In: Proceedings of the IEEE Conference on Control Applications. p. 727-732

Robust FDI for A Ship-mounted Satellite Tracking Antenna: A Nonlinear Approach

Soltani, M., Izadi-Zamanabadi, R. & Wisniewski, R., 2008, *Proceedings of the 2008 IEEE Multi-conference on Systems and Control*. IEEE, p. 757-762

Robust Parametric Fault Diagnosis of Hopper Engine subsystem- H-infinity versus Mu synthesis

Soltani, M., Wisniewski, R., Izadi-Zamanabadi, R., Belau, W. & Le Gonidec, S., 2008.

High Precision Control of Ship-Mounted Satellite Tracking Antenna

Mohsen, S., Izadi-Zamanabadi, R. & Wisniewski, R., 2007, *Proceedings of the European Control Conference 2007*. IEEE, p. 368-374

High Precision Control of Ship-mounted Satellite Tracking Antenna

Soltani, M., Izadi-Zamanabadi, R. & Wisniewski, R., 2006, Aalborg: Aalborg Universitet. 48 p.

Modeling and Verification of Satellite Tracking Antenna

Soltani, M., Izadi-Zamanabadi, R. & Wisniewski, R., 2006, Aalborg: Aalborg Universitet. 66 p.

Press/Media

Esbjergforskere kan redde mad til 50 millioner indere

Mohsen N. Soltani & Amin Hajizadeh

15/05/2019

3 items of Media coverage

Forskere prøver at snyde bølgerne

Mohsen N. Soltani

25/04/2016

2 items of Media coverage

Forsker skal lette kommunikation til søs

Mohsen N. Soltani

30/12/2013

7 items of Media coverage

Forskning holder skibradioen oppe

Mohsen N. Soltani

01/12/2008

1 item of Media coverage

Forskning holder skibradioen oppe

Mohsen N. Soltani

01/10/2008

1 Media contribution

Højteknologifonden støtter nyt dansk satellitprojekt

Mohsen N. Soltani

20/12/2013

1 item of Media coverage

I fokus

Mohsen N. Soltani

16/12/2013

7 items of Media coverage

Indlejret kontrolsystem holder skibradioen oppe

Mohsen N. Soltani

21/11/2008

1 Media contribution

Perspektive

Mohsen N. Soltani

21/03/2006

1 Media contribution

Projekt skal sikre bedre kommunikation til skibe

Mohsen N. Soltani

16/12/2013

3 items of Media coverage

Tre tildelte ph.d.-grader fra Aalborg Universitet

Morten Blarke & Mohsen N. Soltani

09/01/2009

6 items of Media coverage

AAU-forsker sikrer skibe stabile nødradioer

Mohsen N. Soltani

22/11/2008

1 item of Media coverage

Projects

Control of offshore crane systems

N. Soltani, M.

Identification and verification of a scaled floating wind turbine structure

N. Soltani, M.

Modeling and control of a scaled floating wind turbine system

N. Soltani, M.

Advanced Controller for Modular DC-DC Converters Interfaced to Electrolyzer in Energy Island

Nezhadkhatami, H., Hajizadeh, A. & N. Soltani, M.

15/06/2022 → 14/06/2025

Hydrogen Bunkering Integration in Offshore Wind

N. Soltani, M. & Erfani, M.

01/05/2022 → 30/06/2023

Modeling and Control of an MVDC Converter Based on SiC Switches for Power Collection of Offshore Wind Farms and Energy Islands

Mahdizadeh Shalmaei, A. H., N. Soltani, M. & Hajizadeh, A.

01/05/2022 → 30/04/2025

Optimal Stochastic Operation of Micro Multi-Carrier Energy Hubs

Kiani-Moghaddam, M., Arabkoohsar, A. & N. Soltani, M.
15/03/2022 → 14/03/2025

Research on Vibration Suppression and Life Prediction of Key Components of Offshore Wind Turbines

Tian, H., N. Soltani, M. & Nielsen, M. E.
01/12/2021 → 30/11/2024

Modeling and Control of Multi-Port DC/DC converter for Offshore Wind Farm Application

Farajdadian, S., Hajizadeh, A. & N. Soltani, M.
01/08/2021 → 31/07/2024

IEA Wind Task 44: Farm Flow Control

N. Soltani, M.
01/07/2021 → 31/05/2025

CREW: Combined Battery and Hydrogen Fuel Cell for Marine Power Generation

N. Soltani, M., Hajizadeh, A. & Miltersen, A. H.
Energy Cluster Denmark
01/04/2021 → 01/09/2021

DATA-BASED WIND FARM MODELING AND CONTROL

Miao, Y., N. Soltani, M. & Hajizadeh, A.
04/09/2020 → 03/09/2023

OffG-ReneCS: Development and demonstration of an off-grid standalone renewable based cold storage for agricultural use in India

Arabkoohsar, A., N. Soltani, M., Hajizadeh, A., Sadi, M., Jessen, K., Behzadi, A. & Christensen, M. D.
Innovation Fund Denmark
01/06/2019 → 31/05/2022

Development and Demonstration of an Off-grid Standalone Renewable Based Cold Storage for Agricultural use in India

Arabkoohsar, A., N. Soltani, M., Hajizadeh, A., Jessen, K., Behzadi, A. & Sadi, M.
01/05/2019 → 31/05/2022

Energy management in a "smart home" with integrated solar cells, electric vehicles and heat pumps - Energistyring i et "smart home" med integrerede solceller, elbiler og varmepumper

Hajizadeh, A. & N. Soltani, M.
ELFORSK
05/02/2018 → 01/09/2020

Star2Com: Stabilization and control of Satellite-tracking antennas for marine Communication (Star2 Com)

N. Soltani, M., Pedersen, J. K., Yang, Z., Nielsen, P. & Christensen, J.
HTF
01/04/2014 → 31/10/2017

PDPWAC: Plant-wide De-oiling of Produced Water using Advanced Control

Yang, Z., Pedersen, S., Durdevic, P., Pedersen, J. K., N. Soltani, M., Stigkær, J. P., Aillos, A., Løhndorf, B. & Sørensen, P.
22/04/2013 → 31/12/2016

Modern Wind Turbine Control

N. Soltani, M.
01/05/2012 → 25/09/2016

Fault Detection in Hopper Engine System

N. Soltani, M., Izadi-Zamanabadi, R. & Stoustrup, J.
19/05/2010 → 18/05/2011

Reliable Control of High Precision Ship-mounted Satellite Tracking Antenna

N. Soltani, M., Izadi-Zamanabadi, R. & Wisniewski, R.
<ingen navn>
19/05/2010 → 18/05/2013

Hybrid Systems

Wisniewski, R., Izadi-Zamanabadi, R., Ravn, A. P., Bhanderi, D., Thomsen, J. S., Larsen, J. A., N. Soltani, M., Stoustrup, J., Bendtsen, J. D., Trangbæk, K., Alminde, L., Grunnet, J. D. & Laursen, K. K.
<ingen navn>
19/05/2010 → 18/05/2013

VESTAS Turbine Control Program

Wisniewski, R. & N. Soltani, M.
15/03/2010 → 14/02/2016

AEOLUS: Distributed Control of Large-Scale Offshore Wind Farms

Bak, T., Knudsen, T. & N. Soltani, M.
ICT - INFORMATION AND COMMUNICATION TECHNOLOGIES
01/05/2008 → 30/04/2010

Nonlinear Control of Satellite Tracking Antenna

N. Soltani, M., Izadi-Zamanabadi, R. & Wisniewski, R.
<ingen navn>
29/11/2005 → 20/12/2006

Modeling and Verification of Ship-mounted Satellite Tracking Antenna

N. Soltani, M., Izadi-Zamanabadi, R. & Wisniewski, R.
<ingen navn>
01/04/2005 → 30/11/2005

Fault Tolerant Control of High Precision under-actuated Satellite Tracking Antenna

N. Soltani, M., Izadi-Zamanabadi, R. & Wisniewski, R.
<ingen navn>
15/02/2005 → 14/02/2008

Fault Tolerant Design and Reliable Control of High Precision Under- Actuated Satellite Tracking Antenna

N. Soltani, M., Izadi-Zamanabadi, R. & Wisniewski, R.
<ingen navn>
01/02/2005 → 01/02/2008