Publications – Karl Lundengård

November 9, 2024

[1] Karl Lundengård, Peter Johnson, and Phil Ramsden. "Automated Feedback on Student Attempts to Produce a Set of Dimensionless Power Products from a Set of Physical Quantities that Describe a Physical Problem". In: *International Journal for Technology in Mathematics Education* 31.3 (Sept. 2024), pp. 117 –124. DOI: `10.1564/tme_v31.3.02`.

[2] Samya Suleiman et al. "Application of Time-Varying Mortality Rate Model in Pension System: A case of Tanzania". In: *Tanzania Journal of Science* 50.2 (June 2024), pp. 244 –252. DOI: `10.4314/tjs.v50i2.6`.

[3] Asaph Keikara Muhumuza et al. "Properties of the Extreme Points of the Joint Eigenvalue Probability Density Function of the Wishart Matrix". In: *Applied Modeling Techniques and Data Analysis 2: Financial, Demographic, Stochastic and Statistical Models and Methods*. Ed. by Yannis Dimotikalis et al. John Wiley & Sons, Inc., 2021. Chap. 14, pp. 195–210. DOI: `10.1002/9781119821724`.

[4] Asaph Keikara Muhumuza et al. "Extreme points of the Vandermonde determinant on surfaces implicitly determined by a univariate polynomial". In: *Algebraic Structures and Applications*. Ed. by Sergei Silvestrov, Anatoliy Malyarenko, and Milica Rančić. Vol. 317. Springer Proceedings in Mathematics & Statistics. Springer, Cham, 2020, pp. 761–789. DOI: `10.1007/978-3-030-41850-2_33`.

[5] Karl Lundengård, Jonas Österberg, and Sergei Silvestrov. "Extreme points of the Vandermonde determinant on the sphere and some limits involving the generalized Vandermonde determinant". In: *Algebraic Structures and Applications. SPAS 2017*. Ed. by Sergei Silvestrov, Anatoliy Malyarenko, and Milica Rančić. Vol. 317. Springer Proceedings in Mathematics & Statistics. Springer, Cham, 2020, pp. 791–818. DOI: `10.1007/978-3-030-41850-2_32`.

[6]   Asaph Keikara Muhumuza et al. "Optimization of the Wishart joint eigenvalue probability density distribution based on the Vandermonde determinant". In: *Algebraic Structures and Applications*. Ed. by Sergei Silvestrov, Anatoliy Malyarenko, and Milica Rančić. Vol. 317. Springer Proceedings in Mathematics & Statistics. Springer, Cham, 2020, pp. 819–838. DOI: `10.1007/978-3-030-41850-2_34`.

[7]   Georgios Foskolos and Karl Lundengård. "The impact of aggregation interval on current harmonic simulation of aggregated electric vehicle loads". In: *2020 19th International Conference on Harmonics and Quality of Power (ICHQP)*. 2020, pp. 1–6. DOI: `10.1109/ICHQP46026.2020.9177899`.

[8]   V. Javor et al. "A Study on Frequency Spectrum of Electrostatic Discharge Currents and Lightning Currents". In: *2019 14th International Conference on Advanced Technologies, Systems and Services in Telecommunications (TELSIKS)*. 2019, pp. 198–201. DOI: `10.1109/TELSIKS46999.2019.9002189`.

[9]   Andromachi Boulougari et al. "Application of a power-exponential function-based model to mortality rates forecasting". In: *Communications in Statistics: Case Studies, Data Analysis and Applications* 5.1 (2019), pp. 3–10. DOI: `10.1080/23737484.2019.1578705`. eprint: `https://doi.org/10.1080/23737484.2019.1578705`. URL: `https://doi.org/10.1080/23737484.2019.1578705`.

[10]   K. Lundengård et al. "Electrostatic discharge currents representation using the analytically extended function with p peaks by interpolation on a D-optimal design". In: *Facta universitatis - series: Electronics and Energetics* 32.1 (2019), pp. 25–49. DOI: `10.2298/FUEE1901025L`.

[11]   Karl Lundengård. "Extreme points of the Vandermonde determinant and phenomenological modelling with power exponential functions". PhD thesis. Mälardalen University, Sept. 2019. URL: `http://urn.kb.se/resolve?urn=urn:nbn:se:mdh:diva-44579`.

[12]   Asaph Keikara Muhumuza et al. "Properties of the extreme points of the joint eigenvalue probability density function of the Wishart matrix". In: *Proceedings of 18th Applied Stochastic Models and Data Analysis International Conference with the Demographics 2019 Workshop, Florence, Italy: 11-14 June, 2019*. Ed. by Christos H. Skiadas. ISAST:

International Society for the Advancement of Science and Technology, 2019, pp. 559–571. URL: http://www.asmda.es/asmda2019.html.

[13] Vesna Javor et al. "Analytical Representation of Measured Lightning Currents and Its Application to Electromagnetic Field Estimation". In: *IEEE Transactions on Electromagnetic Compatibility* 60.5 (2018), pp. 1415–1426. DOI: 10.1109/TEMC.2017.2768549.

[14] Vesna Javor et al. "Electrostatic discharge currents and their derivatives' approximation by piecewise power-exponential functions". In: *Turkish Journal of Electrical Engineering and Computer Sciences* 26.2 (2018), pp. 1093–1102. DOI: 10.3906/elk-1707-95.

[15] Vesna Javor et al. "Modeling of Artificially-Triggered Lightning Currents by Multi-Peaked Analytically Extended Functions". In: *COMPEL* 37.4 (2018), pp. 1354–1365. DOI: 10.1108/COMPEL-09-2017-0380.

[16] Karl Lundengård, Jonas Österberg, and Sergei Silvestrov. "Optimization of the Determinant of the Vandermonde Matrix and Related Matrices". In: *Methodology and Computing in Applied Probability* 20.4 (2018), pp. 1417–1428. DOI: 10.1007/s11009-017-9595-y.

[17] Vesna Javor et al. "Application of Genetic Algorithm to Estimation of Function Parameters in Lightning Currents Approximations". In: *International Journal of Antennas and Propagation* 2017 (2017). DOI: 10.1155/2017/4937943.

[18] Karl M. Lundengård et al. "Electrostatic discharge current modelling using multi-peaked analytically extended function". In: *2017 2nd International Multidisciplinary Conference on Computer and Energy Science (SpliTech)*. 2017, pp. 1–6. URL: https://ieeexplore.ieee.org/document/8019264.

[19] Karl M. Lundengård et al. "Electrostatic discharge currents representation using the Multi-peaked Analytically Extended function by interpolation on a D-optimal design". In: *2017 IEEE International Symposium on Electromagnetic Compatibility Signal/Power Integrity (EMCSI)*. 2017, pp. 25–30. DOI: 10.1109/ISEMC.2017.8077985.

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[20] Karl M. Lundengård et al. "Estimation of Parameters for the Multi-peaked AEF Current Functions". In: *Methodology and Computing in Applied Probability* 19.4 (2017), pp. 1107–1121. DOI: `10.1007/s11009-016-9501-z`.

[21] Karl Lundengård. "Generalized Vandermonde matrices and determinants in electromagnetic compatibility". Licentiate Thesis. Mälardalen University, 2017. URL: `http://urn.kb.se/resolve?urn=urn:nbn:se:mdh:diva-34864`.

[22] Vesna Javor et al. "Modelling of measured lightning discharge currents to tall towers". In: *2017 IEEE International Conference on Environment and Electrical Engineering and 2017 IEEE Industrial and Commercial Power Systems Europe (EEEIC / I CPS Europe)*. 2017, pp. 1–4. DOI: `10.1109/EEEIC.2017.7977795`.

[23] Karl Lundengård et al. "Construction of moment-matching multinomial lattices using Vandermonde matrices and Gröbner bases". In: *AIP Conference Proceedings*. Ed. by S. Sivasundaram. Vol. 1798. 020094. American Institute of Physics (AIP), 2017. DOI: `10.1063/1.4972686`.

[24] Karl M. Lundengård et al. "Multi-Peaked Analytically Extended Function Representing Electrostatic Discharge (ESD) Currents". In: *AIP Conference Proceedings*. Ed. by S. Sivasundaram. Vol. 1798. 020093. American Institute of Physics (AIP), 2017. DOI: `10.1063/1.4972685`.

[25] K. Lundengård et al. "Novel approach to modelling of lightning current derivative". In: *Facta universitatis - series: Electronics and Energetics* 30.2 (2017), pp. 245–256. DOI: `10.2298/FUEE1702245L`.

[26] K. Lundengård et al. "Application of the multi-peaked analytically extended function to representation of some measured lightning currents". In: *Facta universitatis - series: Electronics and Energetics* 13.2 (2016), pp. 145–155. DOI: `10.2298/SJEE160215001L`.

[27] Karl Lundengård et al. "Moment-matching multinomial lattices using Vandermonde matrices for option pricing". In: *Stochastic and Data Analysis Methods and Applications in Statistics and Demography*. Ed. by James R. Bozeman, Teresa Oliveira, and Christos H. Skiadas. Vol. 2. ISAST: International Society for the Advancement of Science and Technology, 2016. Chap. 1, pp. 19–30. URL: `http://www.asmda.es/images/1_L-MOH_ASMDA2015_Proceedings.pdf`.

[28] K. Lundengård et al. "On Some Properties of the Multi-Peaked Analytically Extended Function for Approximation of Lightning Discharge Currents". In: *Engineering Mathematics I: Electromagnetics, Fluid Mechanics, Material Physics and Financial Engineering*. Ed. by Sergei Silvestrov, Anatoliy Malyarenko, and Milica Rančić. Vol. 178. Springer Proceedings in Mathematics & Statistics. Springer, Cham, 2016, pp. 151–172. DOI: `10.1007/978-3-319-42082-0_10`.

[29] K. Lundengård et al. "Estimation of Parameters for the Multi-peaked AEF Current Functions". In: *ASMDA 2015 Proceedings: 16th Applied Stochastic Models and Data Analysis International Conference with 4th Demographics 2015 Workshop*. Ed. by Christos H. Skiadas. ISAST: International Society for the Advancement of Science and Technology, 2015, pp. 623–636. URL: `http://www.asmda.es/asmda2015.html`.

[30] Vesna Javor et al. "Measured electrostatic discharge currents modeling and simulation". In: *2015 12th International Conference on Telecommunication in Modern Satellite, Cable and Broadcasting Services (TELSIKS)*. 2015, pp. 209–212. DOI: `10.1109/TELSKS.2015.7357771`.

[31] K. Lundengård et al. "Optimization of the determinant of the Vandermonde matrix on the sphere and related surfaces". In: *ASMDA 2015 Proceedings: 16th Applied Stochastic Models and Data Analysis International Conference with 4th Demographics 2015 Workshop*. Ed. by Christos H. Skiadas. ISAST: International Society for the Advancement of Science and Technology, 2015, pp. 637–648. URL: `http://www.asmda.es/images/1_L-MOH_ASMDA2015_Proceedings.pdf`.

[32] Karl M. Lundengård et al. "Application of the Marquardt Least Square Method to the Estimation of Pulse Function Parameters". In: *AIP Conference Proceedings*. Ed. by S. Sivasundaram. Vol. 1637. 637. American Institute of Physics (AIP), 2014. DOI: `10.1063/1.4904634`.

[33] Karl Lundengård et al. "Asian Options, Jump-Diffusion Processes on a Lattice, and Vandermonde Matrices". In: *Modern Problems in Insurance Mathematics*. Ed. by Dmitrii Silvestrov and Anders Martin-Löf. EAA Series. Springer, Cham, 2014. Chap. Related Topics in Applied and Financial Mathematics, pp. 335–363. DOI: `10.1007/978-3-319-06653-0_20`.

[34] Karl M. Lundengård et al. "Estimation of Pulse Function Parameters for Approximating Measured Lightning Currents Using the Marquardt Least Squares Method". In: *2014 International Symposium on Electromagnetic Compatibility*. 2014, pp. 571–576. DOI: `10.1109/EMCEurope.2014.6930971`.

[35] Karl Lundengård, Jonas Österberg, and Sergei Silvestrov. "Optimization of the determinant of the Vandermonde matrix and related matrices". In: *AIP Conference Proceedings*. Ed. by S. Sivasundaram. Vol. 1637. 627. American Institute of Physics (AIP), 2014. DOI: `10.1063/1.4904633`.

[36] Carolyne Ogutu et al. "Pricing Asian options using moment matching on a multinomial lattice". In: *AIP Conference Proceedings*. Ed. by S. Sivasundaram. Vol. 1637. 759. American Institute of Physics (AIP), 2014. DOI: `10.1063/1.4904633`.