Journal Publications

[1] K. Kanchan, **D. Kumar**, and B. Sonker, "Fictitious input-output matrices-based Frequency Limited Model Reduction of continuous-time systems", *Asian Journal of Control*, pp. 1–9, 2025. DOI: 10.1002/asjc.3587

[2] V. Sharma, and **D. Kumar**, "Frequency weighted and Frequency interval Gramian framework based Model Reduction using Singular value decomposition," *IMA Journal of Mathematical Control and Information*, vol. 41, no. 1, pp. 57–72, 2024. DOI: 10.1093/imamci/dnad036

[3] S. Gehlaut and **D. Kumar**, "Salp Swarm Optimization-Based Approximation of Fractional-Order Systems with Guaranteed Stability," *Circuits, Systems, and Signal Processing*, vol. 43, pp 3440–3460, 2024. DOI: 10.1007/s00034-024-02620-6

[4] V. Sharma, and **D. Kumar**, "Confined Frequency-Interval Gramian Framework-Based Balanced Model Reduction," *IETE Journal of Research*, pp 1–8, 2023. DOI: 10.1080/03772063.2023.2288293

[5] T. Veerendar, and **D. Kumar**, "Teaching-learning optimizer-based FO-PID for load frequency control of interlinked power systems," *International Journal of Modelling and Simulation*," vol. 43, no. 5, pp. 683–705, 2023. DOI: 10.1080/02286203.2022.2112009

[6] T. Veerendar, **D. Kumar**, and V. Sreeram, "Maiden application of colliding bodies optimizer for LFC of two-area non-reheated thermal and hydro-thermal power systems," *Asian Journal of Control*, vol. 25, no. 5, pp. 3443–3455, 2023. DOI: 10.1002/asjc.3096

[7] T. Veerendar, **D. Kumar**, and A. K. Gupta, "Quasi-oppositional African vultures optimization-based $PI^{\lambda}Dn$ plus PI^{λ} controller for frequency control of an interlinked hybrid power system," *Electric Power Components and Systems*, vol. 51, no. 13, pp. 1219–1239, 2023. DOI: 10.1080/15325008.2023.2191249

[8] T. Veerendar, **D. Kumar**, and V. Sreeram, "Fractional-order PID and internal model control-based dual-loop load frequency control using teaching–learning optimization," *Asian Journal of Control*, vol. 25, no. 4, pp. 2482–2497, 2023. DOI: 10.1002/asjc.3022

[9] C. N. Singh, **D. Kumar**, P. Samuel, A. K. Gupta, "Slime Mould Optimization-Based Approximants of Large-Scale Linear-Time-Invariant Continuous-Time Systems with

Assured Stability," *Circuits, Systems, and Signal Processing*, vol. 42, pp. 1419–1437, 2023. DOI: 10.1007/s00034-022-02153-w

[10] T. Veerendar, and **D. Kumar**, "CBO-based PID-F controller for Load frequency control of SPV integrated thermal power system," *Materials Today: Proceedings*, vol. 58, no. 1, pp. 593–599, 2022. DOI: 10.1016/j.matpr.2022.03.414

[11] **D. Kumar**, A. Jazlan, and V. Sreeram, "Model reduction based on limited-time interval impulse response Gramians", *Asian Journal of Control*, vol. 23, no. 1, pp. 572–581, 2021. DOI: 10.1002/asjc.2228

[12] **D. Kumar**, and V. Sreeram, "Factorization based frequency-weighted optimal Hankel-norm model reduction," *Asian Journal of Control*, vol. 22, no. 5, pp. 2106–2118, 2020. DOI: 10.1002/asjc.2096

[13] M. A. M. Yazid, A. Jazlan, M. Z. M. Rodzi, M. A. Husman, A. R. Afif, H. F. M. Zaki, and **D. Kumar,** "Towards the Implementation of Energy Harvesting for IoT Sensor Nodes in an Early Warning Flood Detection System," *Journal of Communications*, vol. 15, no. 5, pp. 398–405, 2020. DOI: 10.12720/jcm.15.5.398-405.

[14] H. I. Toor, M. Imran, A. Ghafoor, **D. Kumar**, V. Sreeram and A. Rauf, "Frequency Limited Model Reduction Techniques for Discrete-Time Systems," *IEEE Transactions on Circuits and Systems II: Express Briefs*, vol. 67, no. 2, pp. 345–349, 2020, DOI: 10.1109/TCSII.2019.2909122.

[15] A. J. H. Mohideen, M. F. Rosli, N. H. H. M. Hanif, H. F. M. Zaki, M. A. Husman, A. G. A. Muthalif, and **D. Kumar**, "Pavement Condition Analysis via Vehicle Mounted Accelerometer Data," *IIUM Engineering Journal*, vol. 21, no. 1, pp. 73–84, 2020. DOI: 10.31436/iiumej.v21i1.1223

[16] B. Sonker, **D. Kumar**, and P. Samuel, "Dual loop IMC structure for load frequency control issue of multi-area multi-sources power systems," *International Journal of Electrical Power & Energy Systems*, vol. 112, pp. 476–494, 2019. DOI: 10.1016/j.ijepes.2019.04.042

[17] D. Lamsal, V. Sreeram, Y. Mishra, and **D. Kumar**, "Output power smoothing control approaches for wind and photovoltaic generation systems: A review," *Renewable and Sustainable Energy Reviews*, vol. 113, 109245, 2019. DOI: 10.1016/j.rser.2019.109245

[18] A. K. Gupta, **D. Kumar**, and P. Samuel, "Order reduction of linear time-invariant systems using Eigen permutation and Jaya algorithm," *Engineering Optimization*, vol. 51, no. 9, pp. 1626–1643, 2019. DOI: 10.1080/0305215X.2018.1536751

[19] A. Jazlan, U. Zulfiqar, V. Sreeram, **D. Kumar**, R. Togneri, and H. F. M. Zaki, "Frequency interval model reduction of complex fir digital filters," *Numerical Algebra, Control & Optimization*, vol. 9, no. 3, pp. 319-326, 2019. DOI: 10.3934/naco.2019021

[20] M. R. F. Azhar, U. Zulfiqar, M. Liaquat, and **D. Kumar**, "Reduced Order Controller Design for Symmetric, Non-Symmetric and Unstable Systems Using Extended Cross-Gramian," *Machines*, vol. 7, no. 3, 48, 2019. DOI: 10.3390/machines7030048

[21] D. Lamsal, T. Conradie, V. Sreeram, Y. Mishra, and **D. Kumar,** "Fuzzy-based smoothing of fluctuations in output power from wind and photovoltaics in a hybrid power system with batteries," *International Transactions on Electrical Energy Systems*, vol. 29, no. 3, e2757, 2019. DOI: 10.1002/etep.2757

[22] D. Lamsal, V. Sreeram, Y. Mishra, and **D. Kumar,** "Smoothing control strategy of wind and photovoltaic output power fluctuation by considering the state of health of battery energy storage system," *IET Renewable Power Generation*, vol. 13, no. 4, pp. 578–586, 2019. DOI: 10.1049/iet-rpg.2018.5111

[23] B. Sonker, **D. Kumar**, and P. Samuel, "Design of two degree of freedom-internal model control configuration for load frequency control using model approximation," *International Journal of Modelling and Simulation*, vol. 39, no. 1, pp. 27–37, 2019. DOI: 10.1080/02286203.2018.1474027

[24] C. N. Singh, **D. Kumar**, and P. Samuel, "Improved pole clustering-based LTI system reduction using a factor division algorithm," *International Journal of Modelling and Simulation*, vol. 39, no. 1, pp. 1-13, 2019. DOI: 10.1080/02286203.2018.1459373

[25] A. K. Gupta, **D. Kumar**, and P. Samuel, "A mixed-method for order reduction of linear time invariant systems using big bang-big crunch and eigen spectrum algorithm," *International Journal of Automation and Control*, vol. 13, no. 2, pp. 158-175, 2019. DOI: 10.1504/IJAAC.2019.098212

[26] A. K. Gupta, **D. Kumar**, and P. Samuel, "A meta-heuristic cuckoo search and eigen permutation approach for model order reduction," *Sādhanā,* vol. 43, no. 5, pp.1-11, 2018. DOI: 10.1007/s12046-018-0810-5

[27] D. Lamsal, V. Sreeram, Y. Mishra, and **D. Kumar**, "Achieving a minimum power fluctuation rate in wind and photovoltaic output power using discrete Kalman filter based on weighted average approach," *IET Renewable Power Generation*, vol. 12, no. 6, pp. 633-638, 2018. DOI: 10.1049/iet-rpg.2017.0346

[28] D. Lamsal, V. Sreeram, Y. Mishra, and **D. Kumar**, "Kalman filter approach for dispatching and attenuating the power fluctuation of wind and photovoltaic power generating systems," *IET Generation, Transmission & Distribution*, vol. 12, no. 7, pp. 1501-1508, 2018. DOI: 10.1049/iet-gtd.2017.0663

[29] **D. Kumar**, V. Sreeram and X. Du, "Model Reduction Using Parameterized Limited Frequency Interval Gramians for 1-D and 2-D Separable Denominator Discrete-Time Systems," *IEEE Transactions on Circuits and Systems I: Regular Papers*, vol. 65, no. 8, pp. 2571-2580, 2018, DOI: 10.1109/TCSI.2017.2787768.

[30] B. Sonker, **D. Kumar**, and P. Samuel, "A modified two-degree of freedom-internal model control configuration for load frequency control of a single area power system," *Turkish Journal of Electrical Engineering & Computer Sciences*, vol. 25, no. 6, pp. 4624-4635, 2017. DOI: 10.3906/elk-1701-225

[31] **D. Kumar**, A. Jazlan, V. Sreeram, R. Togneri, "Partial fraction expansion based frequency weighted model reduction for discrete-time systems," *Numerical algebra, Control and Optimization*, vol. 6, no. 3, pp. 329-337, 2016. DOI: 10.3934/naco.2016015

[32] **D. Kumar**, J.P. Tiwari and S.K. Nagar, "Model Reduction by extended minimal degree optimal hankel norm approximation," *Applied Mathematical Modelling*, vol. 38, no. 11-12, 2922-2933, 2014. DOI: 10.1016/j.apm.2013.11.012

[33] **D. Kumar**, J.P. Tiwari and S.K. Nagar, "Reducing Power system models by Hankel norm approximation technique," *International Journal of Modelling and Simulation*, vol. 33, No. 3, pp. 139-143, 2013. DOI: 10.2316/Journal.205.2013.3.205-5710

[34] **D. Kumar**, J.P. Tiwari and S.K. Nagar, "Reducing order of large scale systems by extended balanced singular perturbation approximation," International Journal of Automation and Control, vol. 6, No. 4, pp. 21-38, 2012. DOI: 10.1504/IJAAC.2012.045438

[35] **D. Kumar**, J.P. Tiwari and S.K. Nagar, "Controller reduction by Balanced approach with guaranteed closed-loop performance," *International Journal of Automation and Control*, vol. 6, No. 2, pp. 105-119, 2012. DOI: 10.1504/IJAAC.2012.048644

[36] **D. Kumar**, J.P. Tiwari and S.K. Nagar, "Reduction of unstable discrete time systems by Hankel norm approximation," Int. J. Engg. Science Techno., vol. 3, No. 4, pp. 2825-2831, 2011.

[37] **D. Kumar**, J.P. Tiwari and S.K. Nagar "Reduction of large scale systems by extended balanced truncation approach," Int. J. Engg. Science Techno., vol. 3, No. 4, pp. 2746-2752, 2011.

Book Chapter Publications:

[1] K. Kanchan, and **D. Kumar**, "Singular Perturbation Approximation-Based Modelling Using Frequency-Limited Balanced Gramians,", In Communication and Intelligent Systems, pp. 295-302, Springer, Singapore, 2023. DOI: 10.1007/978-981-97-2053-8_22

[2] V. Sharma, and **D. Kumar**, "An Innovative Frequency-Limited Interval Gramians-Based Model Order Reduction Method Using Singular Value Decomposition,", In Communication and Intelligent Systems, pp. 183-194, Springer, Singapore, 2023. DOI: 10.1007/978-981-97-2079-8_15

[3] C. N. Singh, A. K. Gupta, **D. Kumar**, and P. Samuel, "A Mixed Approach for Model Reduction Using Differential Evolution and Eigen Permutation," *In Intelligent Algorithms for Analysis and Control of Dynamical Systems*, pp. 51-59. Springer, Singapore, 2021. DOI: 10.1007/978-981-15-8045-1_6, ISBN: 978-981-15-8045-1

[4] A. K. Gupta, C. N. Singh, **D. Kumar**, and P. Samuel, "Modified Eigen Permutation-Based Model Simplification of LTI Systems Using Evolutionary Algorithm," *In Intelligent Algorithms for Analysis and Control of Dynamical Systems*, pp. 41-49. Springer, Singapore, 2021. DOI: 10.1007/978-981-15-8045-1_5, ISBN: 978-981-15-8045-1

[5] A. K. Gupta, P. Samuel, and **D. Kumar,** "Jaya optimization-based PID controller for Z-source inverter using model reduction," *In Intelligent Computing Techniques for Smart Energy Systems*, pp. 257-267. Springer, Singapore, 2020. DOI: 10.1007/978-981-15-0214-9_30, ISBN: 978-981-15-0214-9

[6] A. K. Gupta, P. Samuel, and **D. Kumar,** "Speed Control of PMSM Drive Using Jaya Optimization Based Model Reduction," *In Intelligent Computing Techniques for Smart Energy Systems*, pp. 247-256. Springer, Singapore, 2020. DOI: 10.1007/978-981-15-0214-9_29, ISBN: 978-981-15-0214-9

Conference Publications

[1] A. Singh, S. Gehlaut, and **D. Kumar**, "Optimization-based Modified Two-Degree-of-Freedom Internal Model Controller for voltage regulation of a Zeta converter," *In Proc. 2025 International Conference on Electrical, Electronics, and Automation (E2ACON)*, 2025, pp. 1-5. DOI:

[2] **D. Kumar** and K. Kanchan, "Frequency-limited Gramian Framework for Truncated Balanced Realization of Continuous-time Systems," *In Proc. 2024 10th Indian Control Conference (ICC)*, 2024, pp. 268-272. DOI: 10.1109/ICC64753.2024.10883703

[3] **D. Kumar** and K. Kanchan, "Frequency-weighted Gramian based Truncated Balanced Realization for 2-D Separable Denominator Discrete-time Models," *In Proc. 2024 10th Indian Control Conference (ICC)*, 2024, pp. 297-301. DOI: 10.1109/ICC64753.2024.10883708

[4] S. Gehlaut, P. Kumari and **D. Kumar**, "Design and Implementation of Modified TDF-IMC for a DC-DC Buck Converter," *In Proc. 2024 23rd National Power System Conference (NPSC)*, 2024, pp. 1-5. DOI:

[5] A. Kumar, S. Gehlaut, and **D. Kumar**, "Approximation of Commensurate and Incommensurate Fractional Order Systems," *In Proc. 2024 21st IEEE India Council International Conference (INDICON)*, 2024, pp. 1-5. DOI:

[6] A. Singh, S. Gehlaut, and **D. Kumar**, "Optimally Tuned Two-Degree-of-Freedom IMC for the Output Voltage Regulation of a Buck Converter," *In Proc. 2024 21st IEEE India Council International Conference (INDICON)*, 2024, pp. 1-5. DOI:

[7] V. Sharma, and **D. Kumar**, "Singular Value Decomposition-Based Reduced Order Framework of Frequency Weighted Continuous-Time Systems," *In Proc. 2024 IEEE 5th India Council International Subsections Conference (INDISCON)*, 2024, pp. 1-4. DOI: 10.1109/INDISCON62179.2024.10744402

[8] K. Kanchan, **D. Kumar**, and V. Sreeram, "A New Frequency Confined Gramians-based Model Order Reduction Technique," In Proc. 2024 Australian & New Zealand Control Conference (ANZCC), 2023, pp. 121-124. DOI: 10.1109/ANZCC59813.2024.10432826

[9] K. Kumari, S. Gehlaut, and **D. Kumar**, "Reducing the Order of Interval Systems Through Hurwitz Polynomial and Factor Division," In Proc. 2023 10th IEEE Uttar Pradesh Section International Conference on Electrical, Electronics and Computer Engineering (UPCON), 2023, vol. 10, pp. 1152-1156. DOI: 10.1109/UPCON59197.2023.10434353

[10] S. Gehlaut, **D. Kumar**, C. N. Singh, and A. K. Gupta, "Jaya optimization-based approximation of LTI systems using stability equations," *In Proc. 2023 International Conference on Power, Instrumentation, Energy and Control (PIECON)*, 2023, pp. 1-5. DOI: 10.1109/PIECON56912.2023.10085851

[11] T. Veerendar, and **D. Kumar**, "AVOA-based PID+ IDF controller for frequency control of isolated hybrid thermal power system," *In Proc. 2023 International Conference on Power, Instrumentation, Energy and Control (PIECON)*, 2023, pp. 1-5. DOI: 10.1109/PIECON56912.2023.10085725

[12] V. Sharma, and **D. Kumar**, "SVD-based Frequency Weighted Model Order Reduction of Continuous-time Systems," *In Proc. 2022 IEEE International Conference on Power Electronics, Drives and Energy Systems (PEDES)*, 2022, pp. 1-4. DOI: 10.1109/PEDES56012.2022.10080534

[13] S. Gehlaut, M. S. Rawat and **D. Kumar**, "Order Simplification of LTI Systems using Enhanced Pole Clustering Technique," *In Proc. 2022 IEEE 9th Uttar Pradesh Section International Conference on Electrical, Electronics and Computer Engineering (UPCON)*, 2022, pp. 1-5, DOI: 10.1109/UPCON56432.2022.9986463.

[14] V. Sharma, P. Sahu and **D. Kumar**, "New input-output matrices based frequency interval balanced truncation," *In Proc. 2022 IEEE 9th Uttar Pradesh Section International Conference on Electrical, Electronics and Computer Engineering (UPCON)*, 2022, pp. 1-4, DOI: 10.1109/UPCON56432.2022.9986492.

[15] C. N. Singh, **D. Kumar**, P. Samuel, A. K. Gupta and V. Sreeram, "Colliding bodies optimization-based approximants of linear-time invariant continuous-time systems," *In Proc. 2022 Australian & New Zealand Control Conference (ANZCC)*, 2022, pp. 46-50, DOI: 10.1109/ANZCC56036.2022.9966957.

[16] S. Gehlaut and **D. Kumar**, "Reduced-Order Modelling based Power Control of Pressurized Heavy Water Reactor," *In Proc. 2022 IEEE Students Conference on Engineering and Systems (SCES)*, 2022, pp. 1-5, DOI: 10.1109/SCES55490.2022.9887780.

[17] S. Kumar and **D. Kumar**, "Kharitonov based Reduction of Interval systems using Cauer-second form and Mihailov Criterion," *In Proc. 2022 IEEE Students Conference on Engineering and Systems (SCES)*, 2022, pp. 01-05, DOI: 10.1109/SCES55490.2022.9887717.

[18] C. N. Singh, **D. Kumar**, P. Samuel, A. K. Gupta and V. Sreeram, "Approximation of Commensurate Fractional-order systems using Colliding bodies optimization," *In Proc. 2022 13th Asian Control Conference (ASCC)*, 2022, pp. 312-315, DOI: 10.23919/ASCC56756.2022.9828143.

[19] T. Veerendar, **D. Kumar** and V. Sreeram, "Colliding Bodies Optimization-based PID Controller for Load Frequency Control of single area power system," *In Proc. 2021 Australian & New Zealand Control Conference (ANZCC)*, 2021, pp. 185-188, DOI: 10.1109/ANZCC53563.2021.9628378.

[20] B. Sonker, **D. Kumar**, V. Sreeram and P. Samuel, "Differential Evolution based IMC-PID Design for Load frequency control of Two-area power systems," *In Proc. 2020 Australian and New Zealand Control Conference (ANZCC)*, 2020, pp. 67-70, DOI: 10.1109/ANZCC50923.2020.9318342.

[21] T. Veerendar, **D. Kumar** and V. Sreeram, "Teaching-Learning Optimization based Dual-loop Two-Degree of Freedom Load Frequency Controller," *In Proc. 2020 Australian and New Zealand Control Conference (ANZCC)*, 2020, pp. 71-74, DOI: 10.1109/ANZCC50923.2020.9318393.

[22] **D. Kumar**, U. Zulfiqar, V. Sreeram, M. Imran, W. M. W. Muda, A. Jazlan, and A. G. Wu, "Positive-Real Truncated Balanced Realization based Frequency-Weighted Model reduction," *In Proc. 2019 Australian & New Zealand Control Conference (ANZCC)*, 2019, pp. 145-147, DOI: 10.1109/ANZCC47194.2019.8945663.

[23] B. Sonker, **D. Kumar** and P. Samuel, "Differential Evolution based TDF-IMC scheme for load frequency control of single-area power systems," *In Proc. TENCON 2019 - 2019 IEEE*

Region 10 Conference (TENCON), 2019, pp. 1416-1420, DOI: 10.1109/TENCON.2019.8929572.

[24] L. Kumar, R. Prasad, A. K. Gupta, **D. Kumar**, M. K. Panda and B. Jha, Modified Least-Square based Model Reduction using Time Moments and Markov Parameters," *In Proc. 2019 IEEE Region 10 Symposium (TENSYMP)*, 2019, pp. 441-446, DOI: 10.1109/TENSYMP46218.2019.8971323.

[25] C. N. Singh, A. K. Gupta, **D. Kumar** and P. Samuel, "Improved Pole Clustering Based Simplification of Complex Systems using Big Bang-Big Crunch Optimization," *In Proc. 2019 IEEE Students Conference on Engineering and Systems (SCES)*, 2019, pp. 1-6, DOI: 10.1109/SCES46477.2019.8977214.

[26] S. P. Singh and D. Kumar, "Singular Perturbation based Frequency-Weighted Model Reduction of Discrete-Time Systems," *In Proc. 2019 IEEE Students Conference on Engineering and Systems (SCES)*, 2019, pp. 1-5, DOI: 10.1109/SCES46477.2019.8977232.

[27] A. Satapathi and **D. Kumar**, "A New Stability Preserving Model Reduction Technique for Discrete-Time Systems using Frequency-Limited Gramians," *In Proc. 2019 IEEE Students Conference on Engineering and Systems (SCES)*, 2019, pp. 1-5, DOI: 10.1109/SCES46477.2019.8977234.

[28] **D. Kumar**, U. Zulfiqar and V. Sreeram, "Frequency-weighted balanced Truncation of 2-D separable denominator discrete-time systems," *In Proc. 2018 Australian & New Zealand Control Conference (ANZCC)*, 2018, pp. 377-379, DOI: 10.1109/ANZCC.2018.8606618.

[29] C. N. Singh, **D. Kumar**, P. Samuel and A. Sachan, "Model Reduction of Continuous-Time Interval Systems using Eigen Spectrum analysis," *In Proc. 2018 2nd IEEE International Conference on Power Electronics, Intelligent Control and Energy Systems (ICPEICES)*, 2018, pp. 1103-1108, DOI: 10.1109/ICPEICES.2018.8897460.

[30] C. N. Singh, A. K. Gupta, **D. Kumar** and P. Samuel, "Fuzzy C-means Based Model Simplification using Jaya optimization Algorithm," *In Proc. 2018 2nd IEEE International Conference on Power Electronics, Intelligent Control and Energy Systems (ICPEICES)*, 2018, pp. 881-885, DOI: 10.1109/ICPEICES.2018.8897306.

[31] **D. Kumar**, and V. Sreeram, "Model reduction via generalized frequency interval cross gramian," *In Proc. 5th IFAC Conference on Advances in Control and Optimization of Dynamical Systems (ACODS)*, 2018, vol. 51, no. 1, pp. 25-29. DOI: 10.1016/j.ifacol.2018.05.005.

[32] D. Lamsal, T. Conradie, V. Sreeram, Y. Mishra and **D. Kumar**, "A fuzzy logic control approach for smoothing of wind and photovoltaic generation output fluctuations," *In Proc. 2017 Australian and New Zealand Control Conference (ANZCC)*, 2017, pp. 80-82, DOI: 10.1109/ANZCC.2017.8298489.

[33] **D. Kumar**, A. Jazlan and V. Sreeram, "Generalized time limited Gramian based model reduction," *In Proc. 2017 Australian and New Zealand Control Conference (ANZCC)*, 2017, pp. 47-49, DOI: 10.1109/ANZCC.2017.8298482.

[34] **D. Kumar**, A. Jazlan and V. Sreeram, "Model reduction based on limited time interval impulse response gramians," *In Proc. 2017 Australian and New Zealand Control Conference (ANZCC)*, 2017, pp. 50-52, DOI: 10.1109/ANZCC.2017.8298483.

[35] A. K. Gupta, **D. Kumar**, B. M. Reddy and P. Samuel, "BBBC based optimization of PI controller parameters for buck converter," *In Proc. 2017 Innovations in Power and Advanced Computing Technologies (i-PACT)*, 2017, pp. 1-6, DOI: 10.1109/IPACT.2017.8244983.

[36] C. N. Singh, **D. Kumar** and P. Samuel, "Order reduction of interval systems using direct truncation and stability equation method," *In Proc. 2017 International Conference on Advances in Mechanical, Industrial, Automation and Management Systems (AMIAMS)*, 2017, pp. 363-368, DOI: 10.1109/AMIAMS.2017.8069240.

[37] A. K. Gupta, P. Samuel and **D. Kumar**, "A state of art review and challenges with impedance networks topologies," *In Proc. 2016 IEEE 7th Power India International Conference (PIICON)*, 2016, pp. 1-6, DOI: 10.1109/POWERI.2016.8077211.

[38] **D. Kumar**, A. Jazlan, V. Sreeram, and R. Togneri, "Partial fraction expansion based frequency weighted balanced singular perturbation approximation model reduction technique with error bounds," *In Proc. 6th IFAC Symposium on System Structure and Control (SSSC)*, 2016, vol. 49, no. 9, pp. 45-50. DOI: 10.1016/j.ifacol.2016.07.488

[39] M. K. Sharma and **D. Kumar**, "Modified γ-δ Routh approximation method for order reduction of discrete interval systems," *In Proc. 2015 10th Asian Control Conference (ASCC)*, 2015, pp. 1-5, DOI: 10.1109/ASCC.2015.7244881.

[40] **D. Kumar** and S. K. Nagar, "Frequency weighted square-root optimal Hankel norm model reduction," *In Proc. 2015 10th Asian Control Conference (ASCC)*, 2015, pp. 1-4, DOI: 10.1109/ASCC.2015.7244824.

[41] M. Sharma, A. Sachan and **D. Kumar**, "Order reduction of higher order interval systems by stability preservation approach," *In Proc. 2014 International Conference on Power, Control and Embedded Systems (ICPCES)*, 2014, pp. 1-6, DOI: 10.1109/ICPCES.2014.7062833.

[42] **D. Kumar** and S. K. Nagar, "Order reduction of power system models using square-root balanced approach," *In Proc. 2014 Eighteenth National Power Systems Conference (NPSC)*, 2014, pp. 1-6, DOI: 10.1109/NPSC.2014.7103801.

[43] R. D. Pal, M. Kumar and **D. Kumar**, "Schur balanced approach for frequency weighted model reduction," *In Proc. 2014 Students Conference on Engineering and Systems (SCES)*, 2014, pp. 1-5, DOI: 10.1109/SCES.2014.6880090.

[44] M. Kumar, R. D. Pal and **D. Kumar**, "Frequency weighted model reduction using square-root balanced approach," *In Proc. 2014 Students Conference on Engineering and Systems (SCES)*, 2014, pp. 1-5, DOI: 10.1109/SCES.2014.6880089.

[45] **D. Kumar** and S. K. Nagar, "Square-root optimal hankel norm approximation technique for order reduction of non-minimal systems," *In Proc. 2014 International Electrical Engineering Congress (iEECON)*, 2014, pp. 1-4, DOI: 10.1109/iEECON.2014.6925927.

[46] **D. Kumar** and S. K. Nagar, "Square-root Frequency Weighted balanced model reduction via singular perturbation approximation," *In Proc. 2014 International Electrical Engineering Congress (iEECON)*, 2014, pp. 1-4, DOI: 10.1109/iEECON.2014.6925929.

[47] A. Jaiswal, Pawan Kr. Singh, S. Manmatharajan, S. Gangwar, and **D. Kumar**, "Order Reduction of Interval systems using Eigen Spectrum and Factor Division Algorithm" *In Proc. 3rd International Conference on Advances in Control and Optimization of Dynamical Systems (ACODS)*, 2014, vol. 47, no. 1, pp. 363-367. DOI: 10.3182/20140313-3-IN-3024.00208

[48] **D. Kumar** and S. K. Nagar, "A new frequency weighted model reduction technique using balanced singular perturbation approximation," *In Proc. 2013 Annual IEEE India Conference (INDICON)*, 2013, pp. 1-5, DOI: 10.1109/INDCON.2013.6726025.

[49] **D. Kumar** and S. K. Nagar, "Improved results on frequency weighted optimal Hankel norm model reduction," *In Proc. 2013 9th Asian Control Conference (ASCC)*, 2013, pp. 1-4, DOI: 10.1109/ASCC.2013.6606397.

[50] **D. Kumar** and S. K. Nagar, "Generalized frequency weighted optimal Hankel norm model reduction," *In Proc. 2013 IEEE 8th Conference on Industrial Electronics and Applications (ICIEA)*, 2013, pp. 22-25, DOI: 10.1109/ICIEA.2013.6566334.

[51] **D. Kumar,** S. K. Nagar and J. P. Tiwari, "Controller reduction using optimal Hankel norm approximation with guaranteed closed-loop performance," *In Proc. 2012 7th IEEE Conference on Industrial Electronics and Applications (ICIEA)*, 2012, pp. 757-762, DOI: 10.1109/ICIEA.2012.6360826.

[52] **D. Kumar**, J.P. Tiwari and S.K. Nagar, "Controller Reduction by Singular Perturbation Approximation with Guaranteed Closed-loop Performance" *In Proc. 2012 2nd International Conference on Advances in Control and Optimization of Dynamic Systems (ACODS)*, 2012, pp. 1-7.

[53] **D. Kumar**, J.P. Tiwari and S.K. Nagar, "Model Order Reduction of SISO Systems by Modified Hankel Norm Approximation Technique," *In Proc. 2011 National Systems Conference (NSC)*, 2011, pp. 73-79.

[54] **D. Kumar**, J.P. Tiwari and S.K. Nagar, "Reduction of Power System models using Balanced Singular Perturbation Approximation Technique" *In Proc. 2011 National Systems Conference (NSC)*, 2011, pp. 222-229.

[55] **D. Kumar**, J.P. Tiwari and S.K. Nagar, "Model reduction of SISO systems by an Improved technique based on balanced method," *In Proc. National Conference on Instrumentation and Control (NATCONIC)*, 2011, pp. 96-99.

[56] **D. Kumar**, J.P. Tiwari and S.K. Nagar, "Controller reduction using balanced singular perturbation approximation" *In Proc. 2011 8th Control Instrumentation System Conference*, 2011, pp. 340-343.

[57] **D. Kumar**, J.P. Tiwari and S.K. Nagar, "Simplification of Power System Models using optimal Hankel norm approximation" *In Proc. National Conference on Emerging Trends in Electrical and Electronics Engineering*, 2011, pp. 1-4.

[58] **D. Kumar**, J.P. Tiwari and S.K. Nagar, "A Comparative study of optimal hankel norm approximation and Genetic Algorithm for reduced order modelling" *In Proc. National Conference on Artificial Intelligence and Agents, Theory and Applications*, 2011, pp. 499-503.