

List of Publications

Referred Journal Publications

- (1) Jin, Y., **Liu, K.**, Xiong, L., Tang, L., A Non-traditional Variant Energy Sink for Vibration Suppression and Energy Harvesting, Accepted by *Mechanical Systems and Signal Processing*, June 2022.
- (2) Yuan, M., Jin, Y., **Liu, K.**, Sadhu, A., Optimization of a Non-traditional Vibration Absorber for Vibration Suppression and Energy Harvesting, *Vibration*, 5(3), 383-407, 2022.
- (3) Melro, A., **Liu, K.**, Evaluation and Validation of a Multiphysics Finite Element Model for a Piezoelectric Energy Harvester, *the Transactions of the Canadian Society for Mechanical Engineering*, <https://doi.org/10.1139/tcsme-2019-0283>, 2021.
- (4) Li, Z., Tang, L., Yang, W., Zhao, R., **Liu, K.**, Mace, B., Transient Response of a Nonlinear Energy Sink Based Piezoelectric Vibration Energy Harvester Coupled to a Synchronized Charge Extraction Interface, *Nano Energy*, 87, 106179+11, 2021.
- (5) Li, X., **Liu, K.**, Xiong, L., Tang, L., Development and Validation of a Piecewise Linear Nonlinear Energy Sink for Vibration Suppression and Energy Harvesting, *Journal of Sound and Vibration*, 503, 116104+23, 2021.
- (6) Li, Z., Xiong, L., Yang, W., Tang, L., **Liu, K.**, Mace, B., Modeling and Harmonic Analysis of Energy Extracting Performance of a Piezoelectric Nonlinear Energy Sink System with AC and DC Interface Circuits, *Mechanical Systems and Signal Processing*, 155, 107609+16, 2021.
- (7) Xiong, L., Tang, L., **Liu, K.**, Mace, B., Effect of Electromechanical Coupling on Dynamic Characteristics of a Piezoelectric Nonlinear Energy Sink System, *Journal of Vibration Engineering & Technologies*, 9, 687-699, 2021.
- (8) Saeedi, M., Tarokh, A., **Liu, K.**, Effectiveness of Tail Devices for Wake Control of Road Heavy Vehicles, *the International Journal of Aerodynamics*, 7(2), 176-194, 2021.
- (9) Li, Z., Xiong, L., Tang, L., **Liu, K.**, Mace, B., Vibration Energy Harvesting Based on a Piezoelectric Nonlinear Energy Sink with Synchronized Charge Extraction Interface Circuit, *Journal of Physics D: Applied Physics*, 53(50), 505502+15, 2020.
- (10) Melro, A., **Liu, K.**, Determination of the Modal Parameters of a Single Lap Adhesively Bonded Joint Using the Transfer Matrix Method plus Model Updating, *International Journal of Adhesion and Adhesives*, 101, 102628+9, 2020.
- (11) Yuan, M., **Liu, K.**, Vibration Suppression and Energy Harvesting with a Non-traditional Vibration Absorber: Transient Responses, *Vibration*, 1(1), 105-122, 2018.
- (12) Xiong, L., Tang, L., **Liu, K.**, and Mace, B., Broadband Piezoelectric Vibration Energy Harvesting Using a Nonlinear Energy Sink, *Journal of Physics D: Applied Physics*, 51, 1-12, 2018.
- (13) Yuan, M., Sadhu, A., **Liu, K.**, Condition Assessment of Tuned Mass Damper Using Empirical Wavelet Transform, *Journal of Vibration and Control*, 24(20) 4850-4867, 2018.
- (14) Yuan, M., **Liu, K.**, Sadhu, A., Simultaneous Vibration Suppression and Energy Harvesting with a Non-traditional Vibration Absorber, *the Journal of Intelligent Material Systems and Structures*, 29(8), 1748–1763, 2018.
- (15) Kremer, D., **Liu, K.**, A Nonlinear Energy Sink with an Energy Harvester: Harmonically Forced Responses, *Journal of Sound and Vibration*, 410, 287-302, 2017.
- (16) Tran, T., **Liu, K.**, Time-delay Control of a Switchable Stiffness System, *Journal of Vibration and Control*, 23(15), 2375-2390, 2017.

- (17) Zhang, Y., **Liu, K.**, Tang, L., Piezoelectric Energy Harvesting Using a Nonlinear Energy Sink, *Journal of Intelligent Material Systems and Structures*, 28(3), 307-322, 2017.
- (18) Wang, Z., Liu, X., **Liu, K.**, Wang, H., Backstepping-based Lyapunov Function Construction Using Approximate Dynamic Programming and Sum of Square Techniques, *the IEEE Transactions on Cybernetics*, 47(10), 3393-3403, 2017.
- (19) Musafere, F., Sadhu, A., **Liu, K.**, Towards Damage Detection using Hybrid Blind Source Separation Integrated with Time-varying Auto-regressive Modeling, *Smart Materials and Structures*, 25(1), 015013+18, 2016.
- (20) Zhang, Y., Rosa, R., Zhang, J., Alameri, M., **Liu, K.**, Energy Harvesting Using a Nonlinear Vibration Absorber, *the Transactions of the Canadian Society for Mechanical Engineering*, 40(2), 221-230, 2016.
- (21) Wang, H., Liu, X., **Liu, K.**, Robust Adaptive Neural Tracking Control for a Class of Stochastic Nonlinear Interconnected Systems, *IEEE Transactions on Neural Networks and Learning Systems*, 27(3), 510-523, 2016.
- (22) Wang, H., Liu, X., **Liu, K.**, Adaptive Fuzzy Tracking Control for a Class of Pure-feedback Stochastic Nonlinear Systems with Non-lower Triangular Structure, *Fuzzy Sets and Systems*, 302(1), 101-120, 2016.
- (23) Chen, B., Lin, C., Liu, X., **Liu, K.**, Observer-Based Adaptive Fuzzy Control for a Class of Nonlinear Delayed System, *IEEE Transactions on Systems, Man, and Cybernetics: Systems*, 46(1), 27-36, 2016.
- (24) Wang, H., **Liu, K.**, Liu, X., Chen, B., Lin, C., Neural-Based Adaptive Output-Feedback Control for a Class of Nonstrict-Feedback Stochastic Nonlinear Systems, *IEEE Transactions on Cybernetics*, 45(9), 1977-1987, 2015.
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- (31) Coppola, G., Zhang, D., **Liu, K.**, A New Class of Adaptive Parallel Robots, *ASME Journal of Mechanisms and Robotics*, 6(4), 13-1134, 2014.
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- (49) Liao, L., Xi, F., **Liu, K.**, Adaptive Control of Pressure Tracking for Polishing Process, *ASME Journal of Manufacturing Science and Engineering*, 132(1), 011015-1-12, 2010.
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Referred Conference Proceedings

- (1) Jin, Y., **Liu, K.**, Xiong, L., and Tang, L., A Non-traditional Variant Nonlinear Energy Sink: Harmonically Forced Responses, *the Proceedings of the CSME International Congress 2022*, June 5-8, 2022, Edmonton, Canada.
- (2) Li, H., **Liu, K.**, Deng, J., and Li, B., A Grounder and Tunable Multi-stable Nonlinear Energy Sink: Transient Responses, *the Proceedings of the CSME International Congress 2022*, June 5-8, 2022, Edmonton, Canada.
- (3) Li, H., **Liu, K.**, and Li, B., A Tunable Multistable Piezoelectric Vibration Energy Harvester, *the Proceedings of the 3rd International Conference on Vibration and Energy Harvesting Applications*, July 9-11, 2021, Xian, China.

- (4) Jin, Y., **Liu, K.**, Xiong, L., Tang, L., A Non-traditional Variant Nonlinear Energy Sink: Transient Responses, *the Proceedings of the ASME 2019 International Design Engineering Technical Conferences and Computers and Information in Engineering Conference*, August 18-21, 2019, Anaheim, USA.
- (5) Saeedi, M., Tarokh, A., **Liu, K.**, On the Aerodynamic Performance of Tail Devices for Drag Reduction of Road Heavy Vehicles, *the Proceedings of the CSME-CFDSC Congress 2019*, June 2019, London, Canada.
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- (10) Musafere, F., **Liu, K.**, Sadhu, A., Identification of Instantaneous Frequencies of an Axially-Moving Cantilever Beam Using the Hilbert vibration decomposition, *the Proceedings of the 23th International Congress on Sound and Vibration*, July 10-14, 2016, Athens, Greece.
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- (14) Zhang, Y., **Liu, K.**, Tang, L., Piezoelectric Energy Harvesting Using a Nonlinear Energy Sink, *the Proceedings of SPIE Smart Structures/NDE 2015*, San Diego, March 2015.
- (15) Wang, H., **Liu, K.**, Liu, X., Adaptive Fuzzy Tracking Control for a Class of Nonaffine Stochastic Nonlinear Systems, *the Proceedings of the 33rd Chinese Control Conference*, Nanjing, China, July 2014.
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- (17) Kremer, D., **Liu, K.**, An Energy Harvesting Nonlinear Energy Sink: Design and Test, *the Proceedings of ICMEM'2013*, Toronto, August 2013.
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