

T. W. Wu

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Education

Ph.D. Engineering Mechanics, The University of Texas at Austin, 1987
M.S. Engineering Mechanics, The University of Texas at Austin, 1984
B.S. Civil Engineering, National Taiwan University, 1979

Experience

July 2002-present Professor, Department of Mechanical Engineering, University of Kentucky
July 1994–June 2002 Associate Professor, Department of Mechanical Engineering, University of Kentucky
Aug. 1989–June 1994 Assistant Professor, Department of Mechanical Engineering, University of Kentucky
July 1987–Aug. 1989 Postdoctoral Research Associate, Department of Mechanical Engineering, University of Kentucky

Areas of Research Specialization

Acoustics and Vibration, Boundary Element Methods

Professional Memberships

Member, Institute of Noise Control Engineering

Recent Grants and Contracts

1. “Muffler Analysis Program”, Cummins, Ingersoll Rand, Universal AET, EmeraChem, etc. PI: T. W. Wu, 1996-present
2. “Computerized System for Predicting Noise Emission from Mining Equipment, Department of Health and Human Services, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health, PI for sub-award D. W. Herrin, Co-PI T. W. Wu, 2015-16
3. “Exhaust Component Modeling and Ricardo WAVE Validation,” Ford Motor Company and Ricardo, PI T. W. Wu and Co-PI D. W. Herrin, 2016
4. “Reconstruction of Ingard’s Codes for Absorptive Silencer Analysis,” Universal AET, PI T. W. Wu, Co-PI D. W. Herrin, 2015-16

Selected Publications

1. L. Yang, P. Wang, and T. W. Wu, "Boundary Element Analysis of Bar Silencers Using the Scattering Matrix with Two-Dimensional Finite Element Modes," Engineering Analysis with Boundary Elements, Vol. 74, pp. 100-106, (2017)
2. P. Wang and T. W. Wu, "Impedance-to-Scattering Matrix Method for Large Silencer Analysis Using Direct Collocation," Engineering Analysis with Boundary Elements, Vol. 73, pp. 191-199, (2016)
3. L. Zhou, T. W. Wu, K. Ruan, and D. W. Herrin, "A Reciprocal Identity Method for Large Silencer Analysis," Journal of Sound and Vibration, Vol. 364, pp. 165-176 (2016).
4. L. Yang, Z. L. Ji, and T. W. Wu, "Transmission Loss Prediction of Silencers by Using Combined Boundary Element Method and Point Collocation Approach," Engineering Analysis with Boundary Elements, Vol. 61, pp. 265-273 (2015).
5. P. Wang, J. Li, and T. W. Wu, "Numerical Determination of Transfer Impedance for Perforates," SAE Int. J. Passeng. Cars-Mech. Syst. 8(3) (2015).
6. X. Hua, C. Jiang, D. W. Herrin, and T. W. Wu, "Determination of Transmission and Insertion Loss for Multi-Inlet Mufflers using Impedance Matrix and Superposition Approaches with Comparisons," Journal of Sound and Vibration, Vol. 333, No. 22, pp. 5680-5692 (2014).
7. L. Zhou, L., D. W. Herrin, and T. W. Wu, "Using the Reciprocal Work Identity to Evaluate the Transmission Loss of Mufflers," SAE International Journal of Passenger Cars-Mechanical Systems, Vol. 6, No. 2, pp. 1108-1114. (2013).
8. X. Hua, D. W. Herrin, T. W. Wu and T. Elnady, "Simulation of Diesel Particulate Filters in Large Exhaust Systems," Applied Acoustics, Vol. 74, pp. 1326-1332 (2013).
9. M. I. Hassan, T. W. Wu and K. Saito, "A Combination Effect of Reburn, Post-flame Air and Acoustic Excitation on NOx Reduction," Fuel Vol. 108, pp. 231-237, (2013).
10. C. Jiang, T. W. Wu, M. B. Xu, and C. Y. R. Cheng, "BEM Modeling of Mufflers with Diesel Particulate Filters and Catalytic Converters," Noise Control Engineering Journal Vol. 58, pp. 244-250, (2010).
11. C. Jiang, T. W. Wu, and C. Y. R. Cheng, "A Single-Domain Boundary Element Method for Packed Silencers with Multiple Bulk-Reacting Sound Absorbing Materials," Engineering Analysis with Boundary Elements Vol. 34, pp. 971-976, (2010).