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## PUBLICATIONS

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### Refereed Journals & Hardbound Volumes

1. BAARS, W.J., MURRAY, N.E. & TINNEY, C.E. (2021) A proper framework for studying noise from jets with non-compact sources. *J. Fluid Mech.*, **929**, A23, pp. 1–32, DOI: 10.1017/jfm.2021.837.
2. EITNER, M., MILLER, B., SIROHI, J., & TINNEY, C.E. (2021) Effect of broad-band phase-based motion magnification on modal parameter estimation. *Mechanical Systems and Signal Processing.*, **146**:106995, pp. 1–14, DOI: 10.1016/j.ymssp.2020.106995.
3. MARTELLI, E., SACCOCCIO, L., CIOTTOLI, P.P., TINNEY, C.E., BAARS, W.J. & BERNARDINI, M. (2020) Flow dynamics and wall-pressure signatures in a high-Reynolds number overexpanded nozzle with free shock separation. *J. Fluid Mech.*, **895**, pp. 1–30, DOI: 10.1017/jfm.2020.280.
4. TINNEY, C.E., VALDEZ, J., & MURRAY, N. (2020) Aerodynamic performance of augmented supersonic nozzles. *Exp. Fluids*, **61**:48, DOI: 10.1007/s00348-019-2866-3.
5. TINNEY, C.E., & VALDEZ, J. (2020) Thrust and acoustic performance of small-scale, coaxial, co-rotating rotors in hover. *AIAA J.*, **58**:4, 1657–1667, DOI: 10.2514/1.J058489.
6. EITNER, M., SIROHI, J., & TINNEY, C.E. (2019) Modal parameter estimation of a reduced-scale rocket nozzle using blind source separation. *Measurement Science Technology J., IOP Publishing*, **30**, 1–13. DOI: 10.1088/1361-6501/ab228f.
7. TINNEY, C.E., SHIPMAN, J., & PANICKAR, P. (2019) Proper-orthogonal-decomposition-based reduced-order models for characterizing ship airwake interactions. *AIAA J.*, **58**:2, 633–646, DOI: 10.2514/1.J058499.
8. TINNEY, C.E., PANICKAR, P. & VOGEL, P. (2018) Aeroacoustics of a Planar Multistream Supersonic Nozzle with Aft Deck and Sidewalls. *AIAA J.*, **56**:10, 3926–3937, DOI: 10.2514/1.J056735.
9. TINNEY, C.E. & SIROHI, J. (2018) Multirotor drone noise at static thrust. *AIAA J.*, **56**:7, 2816–2826, DOI: 10.2514/1.J056827.
10. STEPHENSON, J.H. & TINNEY, C.E. (2017) Extracting blade-vortex interactions using continuous wavelet transforms. *J. American Helicopter Society*, **62**, 1–10, DOI: 10.4050/JAHS.62.022001.
11. CANCHERO, A., TINNEY, C.E., MURRAY, N. & RUF, J.H. (2016) Acoustic imaging of clustered rocket nozzles undergoing end-effects. *AIAA J.*, **54**:12, 3778–3786, DOI: 10.2514/1.J055053.
12. ROJO, R., TINNEY, C.E. & RUF, J.H. (2016) Effect of stagger on the vibroacoustic loads from clustered rockets. *AIAA J.*, **54**:11, 3588–3597, DOI: 10.2514/1.J055017.

13. BAARS, W.J., TINNEY, C.E. & HAMILTON, M.F. (2016) A piecewise spreading regime model for calculating effective Gol'dberg numbers for supersonic jet noise. *AIAA J.*, **54**:9, 2833–2842, DOI: 10.2514/1.J054790.
14. CANCHERO, A., TINNEY, C.E., MURRAY, N. & RUF, J.H. (2016) Flow and acoustics of clustered rockets during startup. *AIAA J.*, **54**:5, 1660–1669, DOI: 10.2514/1.J054622.
15. FIÉVET, R., TINNEY, C.E., BAARS, W.J. & HAMILTON, M. (2016) Coalescence in the sound field of a laboratory-scale supersonic jet. *AIAA J.*, **54**:1, 254–265, DOI: 10.2514/1.J054252.
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19. BAARS, W.J. & TINNEY, C.E. (2014) Proper orthogonal decomposition-based Spectral Higher-order Stochastic Estimation. *Physics of Fluids*, **26**:055112, DOI: 10.1063/1.4879255.
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23. DONALD, B.W., BAARS, W.J., TINNEY, C.E. & RUF, J.H. (2014) Sound produced by large area ratio rocket nozzles during fixed and transient operations. *AIAA J.*, **52**:7, 1474–1485, DOI: 10.2514/1.J052588.
24. MULA, S.M., STEPHENSON, J.H., TINNEY, C.E. & SIROHI, J. (2013) Dynamical characteristics of the tip vortex from a four-bladed rotor in hover. *Exp. Fluids*, **54**:1600, DOI: 10.1007/s00348-013-1600-9.
25. BAARS, W.J. & TINNEY, C.E. (2013) Transient wall pressures in an over expanded and large area ratio nozzle. *Exp. Fluids*, **54**:1468, DOI: 10.1007/s00348-013-1468-8.
26. DOLDER, C.N., HABERMAN, M.R., TINNEY, C.E. (2013) Turbulent wall pressure reduction using suction control. *Exp. Fluids*, **54**:1436, DOI: 10.1007/s00348-012-1436-8.
27. DOLDER, C.N., HABERMAN, M.R., & TINNEY, C.E. (2012) A laboratory scale piezoelectric array for underwater measurements of the fluctuating wall pressure beneath turbulent boundary layers. *Measurement Science Technology J., IOP Publishing*, **23**:1, 1–11.
28. BAARS, W.J., TINNEY, C.E., RUF, J.H., BROWN, A.M. & MCDANIELS, D.M. (2012) Wall pressure unsteadiness and side loads in overexpanded rocket nozzles. *AIAA J.*, **50**:1, 61–73.
29. BAARS, W.J., STEARMAN, R.O. & TINNEY, C.E. (2010) A review on the impact of icing on aircraft stability and control. *J. Aeroelasticity and Structural Dynamics*, **2**:1, 35–52.
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31. TINNEY, C.E., UKEILEY, L.S. & GLAUSER, M.N. (2008) Low-dimensional characteristics of a transonic jet. Part 2: Estimate and far-field prediction. *J. Fluid Mech.*, **615**, 53–92.

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34. UKEILEY, L.S., TINNEY, C.E., MANN, R. & GLAUSER, M.N. (2007) Spatial correlations in a transonic jet. *AIAA J.*, **45**:6, 1357–1369.
35. TINNEY, C.E., JORDAN, P., DELVILLE, J., HALL, A.M., & GLAUSER, M.N. (2007) A time-resolved estimate of the turbulence and sound source mechanisms in a subsonic jet flow. *J. of Turbulence*, **8**:7, 1–20.
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37. TINNEY, C.E., GLAUSER, M.N., EATON E. & TAYLOR, J.A. (2006) Low-dimensional azimuthal characteristics of suddenly expanding axisymmetric flows. *J. Fluid Mech.*, **567**, 141–155.
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## Refereed Conference Proceedings

1. WILLIS, W.A., TINNEY, C.E., HAMILTON, M.F. & CORMACK, J.M. (2022) Reduced-order models of coalescing Mach waves. *AIAA Scitech 2022 Forum*, San Diego, Paper 2022–1792.
2. VALDEZ, J.A. & TINNEY, C.E. (2022) The unsteady wake produced by a coaxial co-rotating rotor in hover. *AIAA Scitech 2022 Forum*, San Diego, Paper 2022–2166.
3. TINNEY, C.E., VALDEZ, J., MURRAY, N. (2021) Supersonic jets with compliant wall nozzles. *AIAA Scitech 2021 Forum*, Virtual, Paper 2021–1524. *Winner of the 2021 AIAA/CEAS Aeroacoustics Best Paper Award.*
4. TINNEY, C.E. (2021) Sparse Biorthogonal Decomposition. *AIAA Scitech 2021 Forum*, Virtual, Paper 2021–1851.
5. HAY, T.A., VALDEZ, J.A., TINNEY, C.E., HAMILTON, M.F. & SCHRAM, C. (2019) Sampling Artifacts in Quantitative Schlieren. *25<sup>th</sup> AIAA/CEAS Aeroacoustics Conference*, Delft, The Netherlands, Paper 2019–2635.
6. TINNEY, C.E., VALDEZ, J.A., MEIER, H. & RUF, J. (2019) Laboratory Scale Testing of Ignition Overpressure for Space Vehicle Launch Pad Environments. *25<sup>th</sup> AIAA/CEAS Aeroacoustics Conference*, Delft, The Netherlands, Paper 2019–2413.
7. TINNEY, C.E. & SCHRAM, C. (2019) Acoustic Modes from a Mach 3 Jet. *25<sup>th</sup> AIAA/CEAS Aeroacoustics Conference*, Delft, The Netherlands, Paper 2019–2598.
8. TINNEY, C.E., & VALDEZ, J. (2019) Acoustic scaling for small rotors in hover. *American Helicopter Society 75<sup>th</sup> Annual Forum*, Philadelphia, USA, May.
9. EITNER, M.A., MILLER, B.G., SIROHI, J. & TINNEY, C.E. (2019) Operational Modal Analysis of a Thin-Walled Rocket Nozzle using Phase-Based Image Processing and Complexity Pursuit. *IMAC-XXXVII Conference & Exposition on Structural Dynamics*, Orlando, USA, Paper 2019–37i-4138. *Winner of the Best Paper Award in Optical Techniques & Computer Vision.*
10. VALDEZ, J.A. & TINNEY, C.E. (2018) Measurements of a Mach 3 jet using high-speed optical flow techniques. *24<sup>th</sup> AIAA/CEAS Aeroacoustics Conference*, Atlanta, USA, Paper 2018–3148.

11. TINNEY, C.E. & VALDEZ, J.A. (2018) A new test stand for measuring wall shear stress. *AIAA Fluid Dynamics Conference*, Atlanta, USA, Paper 2018–3085.
12. TINNEY, C.E. SHIPMAN, J. & PANICKAR, P. (2018) Reduced-Order Models for Characterizing Ship Airwake Interactions. *AIAA Fluid Dynamics Conference*, Atlanta, USA, Paper 2018–3233.
13. TINNEY, C.E., SCOTT, K., ROUTON, M., SIROHI, J. & RUF, J.H., (2017) Effect of aeroelasticity on vibroacoustic loads during startup of large area ratio nozzles. *23<sup>rd</sup> AIAA/CEAS Aeroacoustics Conference*, Denver, USA, Paper 2017–3361.
14. TINNEY, C.E., HILL, B., VALDEZ, J., SIROHI, J. & CAMERON, C. (2017) Drone acoustics at static thrust conditions. *American Helicopter Society 73<sup>rd</sup> Annual Forum*, Fort Worth, USA, May.
15. TINNEY, C.E. (2017) Wall pressure unsteadiness on the aft deck of a planar multi-stream supersonic nozzle. *55<sup>th</sup> AIAA Aerospace Sciences Meeting*, Grapevine, USA, Paper 2017–0525.
16. JOSEPH, J.G., TINNEY, C.E., MURRAY, N. (2017) Ideal gas effects in aeroacoustics. *55<sup>th</sup> AIAA Aerospace Sciences Meeting*, Grapevine, USA, Paper 2017–0688.
17. VALDEZ, J.A. & TINNEY, C.E. (2016) A new thrust stand for testing multi-stream and heat simulated supersonic nozzles. *54<sup>th</sup> AIAA Aerospace Sciences Meeting*, San Diego, USA, Paper 2016–1890.
18. ROJO, R., TINNEY, C.E. & RUF, J.H. (2016) Effect of stagger on the vibroacoustic loads from clustered rockets. *54<sup>th</sup> AIAA Aerospace Sciences Meeting*, San Diego, USA, Paper 2016–1016.
19. CANCHERO, A., ROJO, R., TINNEY, C.E., MURRAY, N. & RUF, J.H. (2015) Shadowgraphy of the end-effects regime produced by clustered rockets. *Proceedings of the 15<sup>th</sup> European Turbulence Conference*, Delft, The Netherlands. Online proceedings at: <http://www.etc15.nl/program>.
20. MACK, G., TINNEY, C.E. & RUF, J.H. (2015) Reliable methods for predicting the sound from clustered rocket engines. *Proceedings of the 15<sup>th</sup> European Turbulence Conference*, Delft, The Netherlands. Online proceedings at: <http://www.etc15.nl/program>.
21. TINNEY, C.E., CANCHERO, A., ROJO, R., MACK, G., MURRAY, N.E. & RUF, J.H. (2015) The sound-field produced by clustered rockets during start-up. *Whither Turbulence and Big Data for the 21st Century*. Symposium held at the Institut d'Études Scientifiques de Cargèse, Corsica, France, April 20-24, 2015. Published with Springer Hardbound Volumes. DOI: 10.1007/978-3-319-41217-7.
22. BAARS, W.J., TINNEY, C.E. & HAMILTON, M.F. (2014) Challenges associated with studying nonlinear distortion of acoustic waveforms emitted by high-speed jets. *43<sup>rd</sup> International Congress on Noise Control Engineering*, Australian Acoustical Society, Melbourne, Australia.
23. FIÉVET, R., TINNEY, C.E., BAARS, W.J. & HAMILTON, M.F. (2014) Acoustic waveforms produced by a laboratory scale supersonic jet. *20<sup>th</sup> AIAA/CEAS Aeroacoustics Conference*, Atlanta, USA, Paper 2014–2906.
24. MULA, S.M. & TINNEY, C.E. (2014) Classical and snapshot forms of the POD techniques applied to a helical vortex filament. *44<sup>th</sup> AIAA Fluid Dynamics Conference*, Atlanta, USA, Paper 2014–3257.
25. STEPHENSON, J.H. & TINNEY, C.E. (2014) Extracting blade vortex interactions using continuous wavelet transforms. *American Helicopter Society 70<sup>th</sup> Annual Forum*, Montreal, Canada, May.
26. MULA, S.M., CAMERON, C., TINNEY, C.E. & SIROHI, J. (2014) Low-dimensional characteristics of tip vortices from a coaxial rotor in hover *American Helicopter Society 70<sup>th</sup> Annual Forum*, Montreal, Canada, May.
27. FIÉVET, R., TINNEY, C.E., MURRAY, N.E., LYONS, G. & PANICKAR, P. (2013) Acoustic source indicators using LES in a fully expanded and heated supersonic jet. *19<sup>th</sup> AIAA/CEAS Aeroacoustics Conference*, Berlin, Germany, Paper 2013–2193.

28. BAARS, W.J. & TINNEY, C.E. (2013) Quantifying crackle-inducing acoustic shock-structures emitted by a fully-expanded Mach 3 jet. *19<sup>th</sup> AIAA/CEAS Aeroacoustics Conference*, Berlin, Germany, Paper 2013–2081.
29. BAARS, W.J. & TINNEY, C.E. (2013) Temporal and spectral quantification of the crackle component in supersonic jet noise. *2<sup>nd</sup> Symposium on Fluid-Structure-Sound Interactions and Control*, (eds. Zhou, Y., Liu, Y., Huang, L. & Hodges, D.H.) Hong-Kong, PRC, pp 205–210, DOI: 10.1007/978-3-642-40371-2\_30.
30. STEPHENSON, J.H., TINNEY, C.E. & WATTS, M. (2013) Time frequency analysis of sound from a maneuvering rotorcraft. *American Helicopter Society 69<sup>th</sup> Annual Forum*, Phoenix, USA, May.
31. MURRAY, N., LYONS, G., TINNEY, C.E., DONALD, B., BAARS, W., THUROW, B., HAYNES, H. & PANICKAR, P. (2012) A laboratory framework for synchronous near/far-field acoustics and MHz PIV in high-temperature, shock-containing jets. *Proceedings of the Internoise 2012/ASME NCAD meeting*, New York City, USA, August.
32. KARPATNE, A., SIROHI, J., MULA, S.M. & TINNEY, C.E. (2012) Investigation of tip vortex aperiodicity in hover. *American Helicopter Society 68<sup>th</sup> Annual Forum*, Fort Worth, USA, May 2012.
33. MULA, S.M., STEPHENSON, J., TINNEY, C.E. & SIROHI, J. (2012) Dynamical and evolutionary characteristics of the tip vortex from a four bladed rotor in hover. *American Helicopter Society 68<sup>th</sup> Annual Forum*, Fort Worth, USA, May.
34. VILLANUEVA, M.A., TINNEY, C.E., DOLDER, C.N. & HABERMAN, M.R. (2012) Flowfield and wall pressure characteristics downstream of a boundary layer suction device. *50<sup>th</sup> AIAA Aerospace Sciences Meeting and Exposition*, Nashville, USA, Paper 2012–0743.
35. DONALD, B.W., BAARS, W.J., TINNEY, C.E. & RUF, J.H. (2012) Acoustic characterization of sub-scale rocket nozzles. *50<sup>th</sup> AIAA Aerospace Sciences Meeting and Exposition*, Nashville, USA, Paper 2012–0544.
36. STEPHENSON, J.H., MULA, S.M., TINNEY, C.E. & SIROHI, J. (2012) Far wake rotorcraft vortex tumbling. *50<sup>th</sup> AIAA Aerospace Sciences Meeting and Exposition*, Nashville, USA, Paper 2012–0425.
37. BAARS, W.J., TINNEY, C.E. & WOCHNER, M.S. (2012) Nonlinear noise propagation from a fully expanded Mach 3 jet. *50<sup>th</sup> AIAA Aerospace Sciences Meeting and Exposition*, Nashville, USA, Paper 2012–1177.
38. BAARS, W.J., TINNEY, C.E. & RUF, J.H. (2011) Time-frequency analysis of rocket nozzle wall pressure during start-up transients. *Proceedings of the 13<sup>th</sup> European Turbulence Conference*, (ed. Bajer, K., Kopec, J. & Podziemski, P.), Warsaw, Poland. Online proceedings at: <http://etc13.fuw.edu.pl/papers/proceedings>.
39. MULA, S.M., STEPHENSON, J., TINNEY, C.E. & SIROHI, J. (2011) Vortex jitter in hover. *AHS Southwest Regional Technical Specialists Meeting*, Fort Worth, USA, 23-25 February.
40. BAARS, W.J., TINNEY, C.E., MURRAY, N.E., JANSEN, B.J. & PANICKAR, P. (2011) The effect of heat on turbulent mixing noise in supersonic jets. *49<sup>th</sup> AIAA Aerospace Sciences Meeting and Exhibit*, Orlando, USA, Paper 2011–1029.
41. DOLDER, C.N., HABERMAN, M.R., VILLANUEVA, M.A. & TINNEY, C.E. (2011) Turbulent pressure signature reduction using turbulent boundary layer suction control. *49<sup>th</sup> AIAA Aerospace Sciences Meeting and Exhibit*, Orlando, USA, Paper 2011–0751.
42. BAARS, W.J., TINNEY, C.E., RUF, J.H., BROWN, A.M. & MCDANIELS, D.M. (2010) On the unsteadiness associated with shock-induced separation in overexpanded rocket nozzles. *46<sup>th</sup> AIAA Joint Propulsion Conference and Exhibit*, Nashville, USA, Paper 2010–6728.

43. STEPHENSON, J., TINNEY, C.E. & SIROHI, J. (2010) The near-field pressure of a small-scale rotor during hover. 48<sup>th</sup> *AIAA Aerospace Sciences Meeting and Exhibit*, Orlando, USA, Paper 2010-0008.
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45. BAARS, W.J., STEARMAN, R.O. & TINNEY, C.E. (2009) Wind tunnel studies employing higher order statistics to detect icing induced upsets. *International Forum on Aeroelasticity and Structural Dynamics*, Seattle, USA, Paper 2009-0012.
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47. TINNEY, C.E. (2009) Proper grid resolutions for the proper basis. 47<sup>th</sup> *AIAA Aerospace Sciences Meeting and Exhibit*, Orlando, USA, Paper 2009-0068.
48. DUDLEY, J., SHUMWAY, G., TINNEY, C.E. & UKEILEY, L. (2008) Flow characteristics of the University of Florida-REEF Supersonic Wind Tunnel. 38<sup>th</sup> *AIAA Fluid Dynamics Conference*, Seattle, USA, Paper 2008-3942.
49. KHAMBATTA, P., UKEILEY, L., TINNEY, C.E., STANFORD, B. & IFJU, P. (2008) Flow characteristics of a three-dimensional fixed micro air vehicle wing. 38<sup>th</sup> *AIAA Fluid Dynamics Conference*, Seattle, USA, Paper 2008-3820.
50. GUITTON, A., JORDAN, P., DELVILLE, J., TINNEY, C.E., KERHERVÉ, F., FORTUNÉ, V. & GERVAIS, Y. (2008) Experimental investigations of the velocity field and the near field pressure of a coaxial subsonic jet. *Proceedings of the 7<sup>th</sup> International Symposium on Engineering Turbulence Modelling and Measurements*, Limassol, Cyprus.
51. HALL, J.W., TINNEY, C.E., AUSSER, J.M., PINIER, J.T., HALL, A.M. & GLAUSER, M.N. (2008) Low-dimensional tools for closed-loop flow control in high Reynolds-number turbulent flows. *IUTAM Symposium on Flow Control and MEMS*, (ed. Morrison, J.F., Birch, D.M. & Lavoie, P.), London, England.
52. KERHERVÉ, F., GUITTON, A., JORDAN, P., DELVILLE, J., FORTUNÉ, V., GERVAIS, Y. & TINNEY, C.E. (2008) Identifying the dynamics underlying the large-scale jet noise similarity spectra. 29<sup>th</sup> *AIAA Aeroacoustics Conference*, Vancouver, Canada 2008-3027.
53. TINNEY, C.E. & JORDAN, P. (2007) Coupling mechanisms in a co-axial transonic jet. 28<sup>th</sup> *AIAA Aeroacoustics Conference*, Rome, Italy, Paper 2007-3649.
54. TINNEY, C.E. & GLAUSER, M.N. (2007) The Modified Complementary Technique applied to the Mach 0.85 axisymmetric jet for noise prediction. 28<sup>th</sup> *AIAA Aeroacoustics Conference*, Rome, Italy Paper 2007-3663.
55. JORDAN, P., SCHLEGEL, M., STALNOV, O., NOACK, B. & TINNEY, C.E. (2007) Identifying noisy and quiet modes in a jet. 28<sup>th</sup> *AIAA Aeroacoustics Conference*, Rome, Italy, Paper 2007-3602.
56. GUITTON, A., TINNEY, C.E., JORDAN, P. & DELVILLE, J. (2007) Measurements in a co-axial subsonic jet. 45<sup>th</sup> *AIAA Aerospace Sciences Meeting and Exhibit*, Reno, USA, Paper 2007-0015.
57. TINNEY, C.E., JORDAN, P., GUITTON, A., DELVILLE, J. & COIFFET, F. (2006) A study in the near pressure field of co-axial subsonic jets. 27<sup>th</sup> *AIAA Aeroacoustics Conference*, Boston, USA, Paper 2006-2589.
58. TINNEY, C.E., JORDAN, P., DELVILLE, J., HALL, A.M. & GLAUSER M.N. (2006) A time-resolved estimate of the turbulence and source mechanisms in a subsonic jet flow. 44<sup>th</sup> *AIAA Aerospace Sciences Meeting and Exhibit*, Reno, USA, Paper 2006-0621.

59. HALL, A.M., GLAUSER M.N. & TINNEY, C.E. (2005) An experimental investigation of the pressure-velocity cross-correlation in an axisymmetric jet. *ASME Fluids Engineering Division Summer Meeting and Exhibition*, Houston, USA, FEDSM2005-77338.
60. JORDAN, P., TINNEY, C.E., DELVILLE, J., COIFFET, F., GLAUSER, M.N. & HALL, A. (2005) Low-dimensional signatures of the sound production mechanisms in subsonic jets: Towards their identification and control. *35<sup>th</sup> AIAA Fluid Dynamics Conference and Exhibit*, Toronto, Canada, Paper 2005-4647 (Invited).
61. HALL, A.M., GLAUSER M.N. & TINNEY, C.E. (2005) Experimental investigation of the pressure velocity correlation of a M=0.6 axisymmetric jet. *35<sup>th</sup> AIAA Fluid Dynamics Conference and Exhibit*, Toronto, Canada, Paper 2005-5294.
62. TINNEY, C.E., GLAUSER M.N. & UKEILEY, L.S. (2005) The evolution of the most energetic modes in a high subsonic Mach number turbulent jet. *43<sup>rd</sup> AIAA Aerospace Sciences Meeting and Exhibit*, Reno, USA, Paper 2005-0417.
63. HALL, A.M., TINNEY, C.E. & GLAUSER, M.N. (2005) Investigating the ‘modified’ Complementary Technique using pressure-velocity correlations of an axisymmetric jet. *43<sup>rd</sup> AIAA Aerospace Sciences Meeting and Exhibit*, Reno, USA, Paper 2005-0039.
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65. GLAUSER, M.N., YOUNG, M., HIGUCHI, H., TINNEY, C.E. & CARLSON, H. (2004) POD based experimental flow control on a NACA-4412 airfoil. *42<sup>nd</sup> AIAA Aerospace Sciences Meeting and Exhibit*, Reno, USA, Paper 2004-0575 (Invited).
66. TINNEY, C.E., HALL, A., GLAUSER, M.N., UKEILEY, L.S. & COUGHLIN, T. (2004) Designing an anechoic chamber for the experimental study of high speed heated jets. *42<sup>nd</sup> AIAA Aerospace Sciences Meeting and Exhibit*, Reno, USA, Paper 2004-0010.
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**ABSTRACTS & ORAL PRESENTATIONS (Public)**

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## Abstracts

1. WILLIS, W.A., CORMACK, J., TINNEY, C.E., HAMILTON, M.F. (2021) Examination of Mach wave coalescence in a Mach 3 jet flow. *181<sup>st</sup> Meeting of the Acoustical Society of America*, **150**:4, Pt. 2 of 2. Seattle, USA, (Invited).

2. TINNEY, C.E., & SIROHI, J. (2017) Drone Noise. *Bulletin of the American Physical Society*. **62**:14, Denver, USA.
3. JOSEPH, J.G., & TINNEY, C.E. (2016) A combustion model for studying the effects of ideal gas properties on jet noise. *Bulletin of the American Physical Society*. **61**:20, Portland, USA.
4. TINNEY, C.E., CANCHERO, A., ROJO, R., MURRAY, N.E. & RUF, J.H., (2015) The sound-field produced by clustered rockets during start-up. *Whither Turbulence and Big Data for the 21st Century*. Symposium held at the Institute d'Etudes Scientifiques de Cargese, Corsica, France, April 20-24, 2015.
5. CANCHERO, A., TINNEY, C.E., MURRAY, N.E. & RUF, J.H. (2014) Acoustic structures in the near-field from clustered rocket nozzles. *Bulletin of the American Physical Society*. **59**:20, San Francisco, USA.
6. ROJO, R., TINNEY, C.E., BAARS, W., & RUF, J.H. (2014) End-effects regime in full scale and lab scale rocket nozzles. *Bulletin of the American Physical Society*. **59**:20, San Francisco, USA.
7. CANCHERO, A., TINNEY, C.E., MURRAY, N.E. & RUF, J.H. (2014) Low-dimensional acoustic structures in the near-field of clustered rocket nozzles. *168<sup>th</sup> Meeting of the Acoustical Society of America*, **136**:4, Pt. 2 of 2, 2167. Indianapolis, USA, (Invited).
8. TINNEY, C.E., BAARS, W.J. (2014) Where are the nonlinearities in jet noise? *168<sup>th</sup> Meeting of the Acoustical Society of America*, **136**:4, Pt. 2 of 2, 2101. Indianapolis, USA, (Invited).
9. MACK, G., TINNEY, C.E. & RUF, J.H. (2014) Scaling metrics for predicting rocket noise. *168<sup>th</sup> Meeting of the Acoustical Society of America*, **136**:4, Pt. 2 of 2, 2168. Indianapolis, USA, (Invited).
10. STEPHENSON, J.H. & TINNEY, C.E. (2014) Extracting blade vortex interactions from helicopter acoustic signals. *Texas Fluid Dynamics Meeting*. Lake Buchanan, USA.
11. CANCHERO, A., TINNEY, C.E. & MURRAY, N.E. (2014) Retroreflective shadowgraphy of clustered rocket nozzles. *Texas Fluid Dynamics Meeting*. Lake Buchanan, USA.
12. ROJO, R., TINNEY, C.E., BAARS, W.J. & RUF, J.H. (2014) End-effects-regime in full scale and lab scale rocket nozzles. *Texas Fluid Dynamics Meeting*. Lake Buchanan, USA.
13. MACK, G. & TINNEY, C.E. (2014) Scaling metrics for accurate prediction of rocket noise. *Texas Fluid Dynamics Meeting*. Lake Buchanan, USA.
14. MULA, S.M. & TINNEY, C.E. (2014) Stability and turbulence characteristics of a spiraling vortex filament using proper orthogonal decomposition. *Texas Fluid Dynamics Meeting*. Lake Buchanan, USA.
15. FIÉVET, R. & TINNEY, C.E. (2014) Nonlinear acoustic distortion in supersonic lab-scaled jet vicinity. *Texas Fluid Dynamics Meeting*. Lake Buchanan, USA.
16. ROJO, R.M., TINNEY, C.E., BAARS, W.J. & RUF, J.H. (2013) Near-field/far-field study of the end-effects regime produced by large area ratio nozzles. *166<sup>th</sup> Meeting of the Acoustical Society of America*, **134**:5, Pt. 2 of 2. San Diego, USA, (Invited).
17. FIÉVET, R., BAARS, W.J., SILVA, D. & TINNEY, C.E. (2013) Investigating the propagation of pre-steepened waveforms in the vicinity of a supersonic jet. *Bulletin of the American Physical Society*. **58**:18, Pittsburgh, USA.
18. MULA, S.M., CAMERON, C.G., TINNEY, C.E. & SIROHI, J. (2013) Tip vortex characteristics of a coaxial rotor in hover. *Bulletin of the American Physical Society*. **58**:18, Pittsburgh, USA.
19. BAARS, W.J. & TINNEY, C.E. (2013) Transient unsteadiness in SWBLI in an axisymmetric geometry. *Bulletin of the American Physical Society*. **58**:18, Pittsburgh, USA.



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21. MULA, S.M. & TINNEY, C.E. (2013) Stability of rotor wakes. *Texas Fluid Dynamics Meeting*. Lake Buchanan, USA.
22. FIÉVET, R. & TINNEY, C.E. (2013) Acoustic source indicators on a LES of a fully expanded jet. *Texas Fluid Dynamics Meeting*. Lake Buchanan, USA.
23. BAARS, W.J. & TINNEY, C.E. (2013) Time preserved jet crackle quantification. *Texas Fluid Dynamics Meeting*. Lake Buchanan, USA.
24. BAARS, W.J. & TINNEY, C.E. (2012) Scaling model for nonlinear supersonic jet noise. *Bulletin of the American Physical Society*. **57**:17, San Diego, USA.
25. DOLDER, C.N., HABERMAN, M.R. VILLANUEVA, M.A. & TINNEY, C.E. (2011) Application of boundary layer suction for reducing hydrophone sensing noise. 162<sup>nd</sup> Meeting of the Acoustical Society of America, **130**:4, Pt. 2. San Diego, USA. *Winner of the Best Student Paper Award*.
26. BAARS, W.J., TINNEY, C.E., RUF, J.H., BROWN, A.M., & MCDANIELS, D.M. (2011) Wall pressure unsteadiness and side loads in overexpanded rocket nozzles. *AIAA Houston Section Annual Technical Symposium*, May, Gilruth Center, NASA-JSC, USA.
27. DOLDER, C.N., HABERMAN, M.R. & TINNEY, C.E. (2010) Turbulent boundary layers over receiver arrays. 159<sup>th</sup> Meeting of the Acoustical Society of America, *NOISE-CON*, **127**:3, Pt. 2. Baltimore, USA
28. BAARS, W.J. & TINNEY, C.E. (2009) POD based higher order spectral estimation. *Bulletin of the American Physical Society*. **54**:19, Minneapolis, USA.
29. TINNEY, C.E. (2008) A study of the sensitivity of the POD eigenvalues to the density of the resolved measurement grid. *Bulletin of the American Physical Society*. **53**:15, San Antonio, USA.
30. TINNEY, C.E., BONNET, J.-P., DELVILLE, J. (2007) Stochastic estimation: structure eduction techniques for turbulent flows and other dynamical systems. *Schloss Dagstuhl Seminar-07121: Experimental fluid mechanics, computer vision and pattern recognition*, March, Wadern, Germany.
31. TINNEY, C.E., GLAUSER, M.N. & UKEILEY, L.S. (2006) The fully low-dimensional characteristics of a subsonic jet flow. *Bulletin of the American Physical Society*. **51**:9, Tampa, Florida, USA.
32. JORDAN, P.J. & TINNEY, C.E. (2006) A study in the pressure field of co-axial subsonic jets. *Bulletin of the American Physical Society*. **51**:9, Tampa, USA.
33. JORDAN, P., LAURENDEAU, E., GUITTON, A., TINNEY, C.E. & DELVILLE, J. (2006) Interpreting the near pressure field of unbounded jets. 10<sup>th</sup> Confederation of European Aerospace Societies - *Aeroacoustics Specialists' Committee (CEAS-ASC) Workshop*. March, Trinity College, Dublin, Ireland.
34. TINNEY, C. E., JORDAN, P., GUITTON, A., DELVILLE, J. & COIFFET, F. (2006) The pressure field outside of co-axial round jets. *1000 Islands Fluid Mechanics Meeting*. Alexandria Bay, Canada.
35. TINNEY, C.E., GLAUSER, M.N. & UKEILEY, L.S. (2004) An investigation of the compressible turbulent shear layer of a Mach 0.85 jet. Towards sound source identification in high speed flows. *1000 Islands Fluid Mechanics Meeting*. Alexandria Bay, Canada.
36. TINNEY, C.E., GLAUSER, M.N., UKEILEY, L.S. & COUGHLIN, T. (2003) Refurbishing the Syracuse University anechoic chamber for the study of high speed heated jet noise. *1000 Islands Fluid Mechanics Meeting*. Alexandria Bay, Canada.

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39. TINNEY, C.E., GLAUSER, M.N. (2002) Low-dimensional methods for noise control of a Mach 0.85 jet. *1000 Islands Fluid Mechanics Meeting*. Alexandria Bay, Canada
40. TINNEY, C.E., EATON, E. & GLAUSER, M.N. (2001) Multi-point measurements in an axisymmetric sudden expansion. *Bulletin of the American Physical Society*. **46**:10, San Diego, USA.
41. TINNEY, C.E., EATON, E. & GLAUSER, M.N. (2000) Linear Stochastic Estimation in suddenly expanding flows. *Bulletin of the American Physical Society*. **45**:9, Washington D.C., USA.

## Oral Presentations

1. TINNEY, C.E. (2019) Aerodynamic and aeroacoustic performance of stacked rotors in hover. *NASA Langley Research Center*. Yorktown, USA.
2. TINNEY, C.E. (2016) From Aeroelasticity to Aeroacoustics: A short review of high speed fluid dynamics research at ARL-UT. *Wright Patterson Air-Force Base*. Dayton, USA.
3. TINNEY, C.E. (2016) Effect of stagger on the vibroacoustic loads from clustered rockets. *NASA Langley Research Center*. Yorktown, USA.
4. TINNEY, C.E. (2013) Time frequency analysis in acoustics. *Frontiers in Fluid Dynamics Research Symposium*. San Juan, Puerto Rico.
5. TINNEY, C.E. (2013) Cumulative nonlinear distortion of acoustic waves produced by high speed jet flows. *Stanford University, Center for Turbulence Research*. February, Stanford, USA.
6. TINNEY, C.E. (2013) Cumulative nonlinear distortion of acoustic waves produced by high speed jet flows. *Baylor University, Department of Mechanical Engineering*. February, Waco, USA.
7. TINNEY, C.E. (2012) Cumulative nonlinear distortion of acoustic waves produced by high speed jet flows. *The Pennsylvania State University, Department of Aerospace Engineering*. September, State College, USA.
8. TINNEY, C.E. (2012) Vortex jitter in hover. *Texas Tech University, Department of Mechanical Engineering*. March, Lubbock, USA.
9. TINNEY, C.E. (2010) Analysis techniques for studying unsteady systems. *NASA Ames Research Center*. October, San Jose, USA.
10. TINNEY, C.E. (2010) The unsteadiness associated with the transient start-up of overexpanded rocket nozzles. *University of Houston, Department of Mechanical Engineering*. October, Houston, USA.
11. TINNEY, C.E. (2010) Higher order estimation techniques in turbulence. *Technical University of Dalian, Aerospace Engineering Department*. June, Dalian, PRC.
12. TINNEY, C.E. (2010) Techniques for studying turbulent flows. *NASA Marshall Space Flight Center*. January, Huntsville, USA.
13. TINNEY, C.E. (2010) The near pressure field of coaxial subsonic jets. *Austin Regional Chapter of the Acoustical Society of America*. January, Austin, USA.

14. TINNEY, C.E. (2009) The proper extraction of deterministic structures by way of Proper Orthogonal Decomposition. *Technical University of Delft*. August, Delft, Netherlands.
15. TINNEY, C.E. (2009) The design and construction of wind tunnel facilities for the purposes of performing sponsored research in high speed fluid mechanics. *Aero Systems Engineering Inc.* March, St. Paul, USA.
16. TINNEY, C.E. (2008) The near pressure field within the hydrodynamic periphery of a coaxial transonic jet. *Naval Air Systems Command (NAVAIR)*. March, Patuxent River, USA.
17. TINNEY, C.E. (2007) An overview of how low-dimensional tools are applied to problems in jet noise. *Technical University of Delft*. August, Delft, Netherlands.
18. TINNEY, C.E. (2007) Low-order behaviors of subsonic jet noise. *United Technologies Research Corporation*. August, East Hartford, USA.
19. TINNEY, C.E. (2007) Turbulence and acoustic properties of a transonic jet: a low-order approach. *GE Global Research*. May, Niskayuna, USA.
20. TINNEY, C.E. (2007) Low-order behaviors of subsonic jet noise. *The Boeing Company*. January, Renton, USA.
21. TINNEY, C.E. (2007) Low-order behaviors of subsonic jet noise. *NASA Glenn Research Center*. January, Cleveland, USA.
22. BORÉE, J., TINNEY, C.E. & DELVILLE, J., (2007), Extension de la POD à l'analyse de mesures couplées ou multi-domaines. *Assoc. Francophone de Velocimétrie Laser*. March, Futuroscope, France.
23. TINNEY, C.E. (2005) Quantifying the relationship between the reactive pressure field and the turbulent mixing layer surrounding the axisymmetric jet. *European Research Community on Flow, Turbulence and Combustion (ERCOFTAC), Summer workshop on compressible flows*. Strasbourg, France.
24. TINNEY, C.E., GLAUSER, M.N. UKEILEY, L.S., TAYLOR, J.A., EATON, E.L. & SCHMIT, R. (2002) Low-dimensional techniques for modeling turbulent shear flows. *Université de Poitiers, LEA lecture series-Invited*. Poitiers, France.

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## OTHER

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1. THE DISCOVERY CHANNEL, "Jet Engine Noise" Daily Planet produced by Bell Media Canada: Season 23, Episode 1, March 21, 2018, clip 1352143:
2. KXAN (NBC), Austin, Episode "Rocket research at UT Austin aims to prevent catastrophes." October 29, 2014, 10:17pm.
3. KTBC FOX 7, Austin, Episode: "UT Aerospace students look ahead after 'rock stars' land probe on comet." November 12, 2014, 10:02pm.
4. THE HOOK, The University of Texas at Austin, Texas-Exes, Episode "Rockets, Man." July 25th, 2014.
5. THE DISCOVERY CHANNEL, Daily Planet produced by Bell Media Canada: Episode April 2nd, 2014 D Part 1, clip 1077871:
6. JOURNAL OF THE SOCIETY OF AEROSPACE ENGINEERING STUDENTS, "LEONARDO DIVINCI", Baars, W.J. "Supersonic flow research: Getting a doctoral degree in the United States of America," Leonardo Times, Technical University of Delft, Delft, The Netherlands. Year 16:3, September 2012

7. THE AUSTIN AMERICAN STATESMAN, Mashhood, F. "Noise from F1 hard to mitigate until after first race," June 22, 2012.
8. AEROSPACE AMERICA, Tinney, C.E., "Aeroacoustics 2009 Year in Review," December 2009.