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**NASA Technical Memorandum 100590**

**PUBLICATIONS ON ACOUSTICS RESEARCH  
AT THE LANGLEY RESEARCH CENTER  
DURING 1980-1986**

**Compiled by Linda W. Sutherland**

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National Aeronautics and  
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## FOREWORD

This report is a compilation of published and unpublished research generated from 1980 to 1986 by the Acoustics Division and its predecessor, the Acoustics and Noise Reduction Division. The information assembled has been extracted from the 1980-1986 issues of the Technical Memorandum entitled "Scientific and Technical Information Output of the Langley Research Center for Calendar Year ." The TM numbers assigned to these issues are 81950 (1980), 83270 (1981), 84615 (1982), 83735 (1983), 86336 (1984), 87655 (1985), and 89065 (1986).

The output described in the present document is the result of research performed both in-house and by personnel supported entirely or in part by grants and contracts. In addition to being grouped chronologically, the report is divided according to the following general headings:

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Included are the generally available NASA Technical Papers and Technical Memoranda (TP- and TM-) and Contractor Reports (CR-), copies of which may be obtained from the National Technical Information Service (NTIS), Springfield, Virginia 22161, for a nominal charge. Meeting/conference papers and associated journal articles are obtainable from NTIS or the sponsors of the meetings and conferences. Tech Briefs are usually available from the NASA Langley Technology Utilization and Applications Office.

**1980**

## PUBLICATIONS FOR ACOUSTICS AND NOISE REDUCTION DIVISION

### Formal Reports

Clevenson, Sherman A.; and Shepherd, William T. (Editors): Time-of-Day Corrections to Aircraft Noise Metrics. NASA CP-2135, June 1980, 78 p.  
(Avail: NTIS Subject Category 71 RTOP 505-35-13)

Key, Kelli F.; and Powell, Clemans A.: Effects of Conversation Interference on Annoyance Due to Aircraft Noise. NASA TP-1712, August 1980, 35 p.  
(Avail: NTIS Subject Category 45 RTOP 505-35-13)

Nystrom, Paul A.; and Farassat, F.: A Numerical Technique for Calculation of the Noise of High-Speed Propellers With Advanced Blade Geometry. NASA TP-1662, July 1980, 30 p.  
(Avail: NTIS Subject Category 71 RTOP 505-42-13)

Powell, Clemans A.: Annoyance Due to Multiple Airplane Noise Exposure. NASA TP-1706, August 1980, 39 p.  
(Avail: NTIS Subject Category 45 RTOP 505-35-13)

Ville, Jean-Michel; and Silcox, Richard J.: Experimental Investigation of the Radiation of Sound From an Unflanged Duct and a Bellmouth, Including the Flow Effect. NASA TP-1697, August 1980, 62 p.  
(Avail: NTIS Subject Category 71 RTOP 505-32-03)

Willshire, William L., Jr.: Assessment of Ground Effects on the Propagation of Aircraft Noise: The T-38A Flight Experiment. NASA TP-1747, December 1980, 125 p.  
(Avail: NTIS Subject Category 71 RTOP 505-32-03)

### Quick-Release Technical Memorandums

DeLoach, Richard: An Airport Community Noise-Impact Assessment Model. NASA TM-80198, July 1980, 19 p.  
(Avail: NTIS Subject Category 45 RTOP 505-35-13)

Dempsey, Thomas K.: Variation of Aircraft Noise Annoyance. NASA TM-81804, April 1980, 9 p.  
(Avail: NTIS Subject Category 45 RTOP 505-35-13)

Dempsey, Thomas K.; DeLoach, Richard; and Stephens, David G.: Supporting Statement for Community Study of Human Response to Aircraft Noise. NASA TM-81803, March 1980, 28 p.  
(Avail: NTIS Subject Category 45 RTOP 505-35-13)

Farassat, F.; Martin, R. M.; and Greene, G. C.: Noise Prediction for Jetstar Prop-Fan Test. NASA TM-81916, December 1980, 290 p.  
(Avail: NTIS Subject Category 71 RTOP 505-41-43)

- Fields, James M.: The Relative Importance of Noise Level and Number of Events on Human Reactions to Noise: Community Survey Findings and Study Methods. NASA TM-81795, March 1980, 23 p.  
(Avail: NTIS Subject Category 45 RTOP 505-35-13)
- Fields, James M.: Designing Community Surveys To Provide a Basis for Noise Policy. NASA TM-80110, June 1980, 15 p.  
(Avail: NTIS Subject Category 45 RTOP 505-35-13)
- Fryer, Barbara A.; and The Staff of the Acoustics and Noise Reduction Division: Publications in Acoustics and Noise Control From the NASA Langley Research Center During 1940-1979. NASA TM-80211, January 1980, 103 p.  
(Avail: NTIS Subject Category 71 RTOP 505-32-03)
- Greene, George C.; and Hubbard, Harvey H.: Some Calculated Effects of Non-Uniform Inflow on the Radiated Noise of a Large Wind Turbine. NASA TM-81813, May 1980, 12 p.  
(Avail: NTIS Subject Category 71 RTOP 505-32-03)
- McGary, Michael C.; and Crocker, Malcolm J.: Surface Acoustical Intensity Measurements on a Diesel Engine. NASA TM-81807, April 1980, 16 p.  
(Avail: NTIS Subject Category 71 RTOP 505-33-53)
- Mueller, Arnold W.: A Comparison of the Three Methods Used To Obtain Acoustic Measurements for the NASA Flight Effects Program. NASA TM-81906, October 1980, 37 p.  
(Avail: NTIS Subject Category 71 RTOP 505-32-03)
- Patterson, John L., Jr.; Hardin, Jay C.; and Seiner, John M.: Genesis of Breath Sounds - Preliminary Verification of Theory. NASA TM-81897, October 1980, 16 p.  
(Avail: NTIS Subject Category 51 RTOP 141-20-20)
- Raney, J. P.: Predicted Airframe Noise Levels. NASA TM-81849, September 1980, 8 p.  
(Avail: NTIS Subject Category 71 RTOP 505-32-03)

#### Contractor Reports

- Abrahamson, A. L.: A Feasibility Study of a 3-D Finite Element Solution Scheme for Aeroengine Duct Acoustics. (NAS1-15291 Wyle Laboratories.) NASA CR-159359, 1980.  
(Avail: NTIS Pending Subject Category 71 RTOP 505-32-03)
- Baker, A. J.; and Orzechowski, J. A.: An Interaction Algorithm for Prediction of Mean and Fluctuating Velocities in Two-Dimensional Aerodynamic Wake Flows. (NAS1-14855 Computational Mechanics Consultants, Inc.) NASA CR-3301, July 1980, 68 p.  
(Avail: NTIS Subject Category 02 RTOP 505-32-03)

- Borsky, Paul N.: Research Plan for Establishing the Effects of Time Varying Noise Exposures on Community Annoyance and Acceptability. (NSG-1616 Columbia University.) NASA CR-159197, January 1980, 108 p.  
(Avail: NTIS Subject Category 45 RTOP 505-35-13)
- Davis, S. Jon; and Egolf, T. Alan: An Evaluation of a Computer Code Based on Linear Acoustic Theory for Predicting Helicopter Main Rotor Noise. (NAS1-15739 Sikorsky Aircraft, United Technologies Corporation.) NASA CR-159339, 1980.  
(Avail: NTIS Pending Subject Category 71 RTOP 505-42-13)
- Fink, Martin R.; and Bailey, Douglas A.: Airframe Noise Reduction Studies and Clean-Airframe Noise Investigation. (NAS1-15796 United Technologies Research Center.) NASA CR-159311, April 1980, 82 p.  
(Avail: NTIS Subject Category 71 RTOP 505-31-23)
- Ganz, Ulrich W.: Analytical Investigation of Fan Tone Noise Due to Ingested Atmospheric Turbulence. (NAS1-15085 Boeing Commercial Airplane Company.) NASA CR-3302, August 1980, 148 p.  
(Avail: NTIS Subject Category 71 RTOP 505-32-03)
- Gedge, M. R.: A Design Procedure for Fan Inflow Control Structures. (NAS1-15085 United Technologies Corporation and Boeing Commercial Airplane Company.) NASA CR-165625, September 1980, 201 p.  
(Avail: NTIS Subject Category 71 RTOP 505-32-03)
- JanakiRam, D. S.: Experimental Evaluation of Active and Passive Means of Alleviation Rotor Impulsive Noise in Descent Flight. (NAS1-15337 Systems Research Laboratories, Inc.) NASA CR-159188, December 1979 (Released 1980), 85 p.  
(Avail: NTIS Subject Category 02 RTOP 505-42-13)
- Metzger, F. B.; Menthe, R. W.; and McColgan, C. J.: Performance and Noise of a Low Pressure Ratio Variable Pitch Fan Designed for General Aviation Applications. (NAS1-13774 United Aircraft Corporation.) NASA CR-159246, 1980.  
(Avail: NTIS Pending Subject Category 71 RTOP 505-41-43)
- Peracchio, A. A.; Ganz, U. W.; Gedge, M.; and Robbins, K.: Studies on Proper Simulation During Static Testing of Forward Speed Effects on Fan Noise. (NAS1-15085 United Technologies Corporation and Boeing Commercial Airplane Company.) NASA CR-165626, September 1980, 101 p.  
(Avail: NTIS Subject Category 71 RTOP 505-32-03)
- Piersol, A. G.; Wilby, E. G.; and Wilby, J. F.: Evaluation of Aero Commander Sidewall Vibration and Interior Acoustic Data: Static Operations. (NAS1-14611 Bolt Beranek and Newman Inc.) NASA CR-159290, 1980.  
(Avail: NTIS Pending Subject Category 71 RTOP 505-33-53)
- Pope, L. D.; Rennison, D. C.; and Wilby, E. G.: Analytical Prediction of the Interior Noise for Cylindrical Models of Aircraft Fuselages for Prescribed Exterior Noise Fields. (NAS1-15782 Bolt Beranek and Newman Inc.) NASA CR-159363, 1980.  
(Avail: NTIS Pending Subject Category 71 RTOP 505-33-53)

- Rennison, D. C.; Wilby, J. F.; Marsh, A. H.; and Wilby, E. G.: Interior Noise Control Prediction Study for High-Speed Propeller-Driven Aircraft. (NAS1-15426 Bolt Beranek and Newman Inc.) NASA CR-159200, September 1979 (Released 1980), 304 p.  
(Avail: NTIS Subject Category 71 RTOP 511-57-02)
- Revell, J. D.; Balena, F. J.; and Koval, L. R.: Analytical Study of Interior Noise Control by Fuselage Design Techniques on High-Speed, Propeller-Driven Aircraft. (NAS1-15427 Lockheed-California Company.) NASA CR-159222, November 1978 (Released 1980), 172 p.  
(Avail: NTIS Subject Category 71 RTOP 505-33-53)
- Schlinker, Robert H.; and Amiet, Roy K.: Refraction and Scattering of Sound by a Shear Layer. (NAS1-15339 United Technologies Research Center.) NASA CR-3371, December 1980, 189 p.  
(Avail: NTIS Subject Category 71 RTOP 505-03-13)
- Shivashankara, Belur N.: Aircraft Noise Prediction Program Validation. (NAS1-15526 Boeing Commercial Airplane Company.) NASA CR-159333, 1980.  
(Avail: NTIS Pending Subject Category 71 RTOP 505-32-03)
- Stone, Ralph W., Jr.: Human Comfort Response to Dominant Random Motions in the Lateral Modes of Aircraft Motion. (NAS1-14908-T8 University of Virginia.) NASA CR-159291, 1980.  
(Avail: NTIS Pending Subject Category 53 RTOP 505-35-13)
- Stone, Ralph W., Jr.: Human Comfort Response to Dominant Random Motions in the Longitudinal and Lateral Modes of Aircraft Motion. (NAS1-14908-T8 University of Virginia.) NASA CR-159292, 1980.  
(Avail: NTIS Pending Subject Category 53 RTOP 505-35-13)
- Yates, John E.: Viscous Theory of Surface Noise Interaction Phenomena. (NAS1-15539 Aeronautical Research Associates of Princeton, Inc.) NASA CR-3331, September 1980, 42 p.  
(Avail: NTIS Subject Category 71 RTOP 505-06-23)

#### Journal Articles

- Hardin, J. C.: Noise Radiation From the Side Edges of Flaps. AIAA Journal, Volume 18, Number 5, May 1980, p. 549-552.  
(Avail: AIAA Subject Category 71 RTOP 505-06-23)
- Joshi, M. C.; and Yu, J. C.: Reduction of Wall Jet Trailing Edge Noise by Mean Flow Modification. AIAA Journal of Aircraft, Volume 17, Number 9, September 1980, p. 633-640.  
(Avail: AIAA Subject Category 71 RTOP 505-06-23)
- Lansing, D. L.: Summary of Duct Acoustics Workshop-Report for the AIAA 5th Aeroacoustics Conference. AIAA Journal of Aircraft, Volume 17, Number 7, July 1980, p. 475-476.  
(Avail: AIAA Subject Category 71 RTOP 505-32-03)

- Lansing, Donald L.: Some Effects of Motion and Plane Reflecting Surfaces on the Radiation From Acoustic Sources. Noise Control Engineering, Volume 14, Number 2, March/April 1980, p. 54-65.  
(Avail: NCE Subject Category 71 RTOP 505-32-03)
- Leatherwood, Jack D.; Dempsey, Thomas K.; and Clevenson, Sherman A.: A Design Tool for Estimating Passenger Ride Quality Within Complex Ride Environments. Journal of the Human Factors Society, Volume 22, Number 3, June 1980, p. 291-312.  
(Avail: HFS Subject Category 71 RTOP 505-09-13)
- Lester, Harold C.; and Parrott, Tony L.: Comparison of Measured and Predicted Impedance at Grazing Incidence. AIAA Journal, Volume 18, Number 5, May 1980, p. 504-508.  
(Avail: AIAA Subject Category 71 RTOP 505-03-13)
- Maglieri, Domenic J.; Hubbard, Harvey H.; and Carlson, Harry W.: Status of Knowledge of Sonic Boom. Noise Control Engineering, Volume 15, Number 2, September/October 1980, p. 57-64.  
(Avail: NCE Subject Category 71 RTOP 505-32-03)
- Preisser, John S.: Airframe Noise Measurements on a Supersonic Small-Scale Model. AIAA Journal of Aircraft, Volume 17, Number 11, November 1980, p. 795-801.  
(Avail: AIAA Subject Category 02 RTOP 505-03-13)
- Yen, J.; Maestrello, L.; and Padula, S.: Response of a Panel to a Supersonic Turbulent Flow. Journal of Sound and Vibration, Volume 17, Number 2, July 1980, p. 271-282.  
(Avail: Academic Press Subject Category 71 RTOP 505-32-03)
- Yu, J. C.; and Dixon, N. R.: An Experimental Study of Sound Radiation From a Subsonic Jet in Simulated Motion. AIAA Journal, Volume 18, Number 4, April 1980, p. 427-433.  
(Avail: AIAA Subject Category 71 RTOP 505-03-13)

#### Meeting/Conference Papers

- Baker, A. J.; Yu, J. C.; Orzechowski, J. A.; and Gatski, T. B.: Prediction and Measurement of Turbulent Aerodynamic Trailing Edge Flows. Presented at the AIAA 13th Fluid and Plasma Dynamics Conference, July 14-16, 1980, Snowmass, Colorado. AIAA Paper No. 80-1395.  
(Avail: AIAA Subject Category 02 RTOP 505-32-03)
- Barton, C. Kearney; and Mixson, John S.: Noise Transmission and Control for a Light, Twin-Engine Aircraft. Presented at the AIAA 6th Aeroacoustics Conference, June 4-6, 1980, Hartford, Connecticut. AIAA Paper No. 80-1036.  
(Avail: AIAA Subject Category 71 RTOP 505-33-53)



- Bayliss, Alvin; and Maestrello, Lucio: The Near Field Interaction Between a Sound Pulse and a Jet Shear Layer. Presented at the AIAA 6th Aeroacoustics Conference, June 4-6, 1980, Hartford, Connecticut. AIAA Paper No. 80-0960.  
(Avail: AIAA Subject Category 71 RTOP 505-32-03)
- Brooks, T. F.; and Hodgson, T. H.: Prediction and Comparison of Trailing Edge Noise Using Measured Surface Pressures. Presented at the AIAA 6th Aeroacoustics Conference, June 4-6, 1980, Hartford, Connecticut. AIAA Paper No. 80-0977.  
(Avail: AIAA Subject Category 71 RTOP 505-31-23)
- DeLoach, Richard: Airport Noise Impact Reductions Through Operations. Presented at the 1980 Aircraft Safety and Operating Problems Conference, November 5-7, 1980, Hampton, Virginia.  
(Avail: NTIS, NASA CP-2170 Subject Category 71 RTOP 505-35-13)
- Dempsey, Thomas K.: Variation of Aircraft Noise Annoyance. Presented at the Ninety-Ninth Meeting of the Acoustical Society of America, April 21-25, 1980, Atlanta, Georgia.  
(Avail: NTIS, NASA TM-81804 Subject Category 45 RTOP 505-35-13)
- Farassat, F.: A Collection of Formulas for Calculation of Rotating Blade Noise - Compact and Noncompact Source Results. Presented at the AIAA 6th Aeroacoustics Conference, June 4-6, 1980, Hartford, Connecticut. AIAA Paper No. 80-0996.  
(Avail: AIAA Subject Category 71 RTOP 505-41-43)
- Fields, James M.: Designing Community Surveys To Provide a Basis for Noise Policy. Presented at the Ninety-Ninth Meeting of the Acoustical Society of America, April 21-25, 1980, Atlanta, Georgia.  
(Avail: NTIS, NASA TM-80110 Subject Category 45 RTOP 505-35-13)
- Fields, James M.: A Program To Support the Full Utilization of Data From Existing Social Surveys of Environmental Noise. Presented at the 1980 International Conference on Noise Control Engineering, December 8-10, 1980, Miami, Florida. Published in Proceedings, Volume II, 1980, p. 937-940.  
(Avail: Noise Control Foundation Subject Category 71 RTOP 505-35-13)
- Grandle, Robert E.; and Nystrom, Paul A.: A Method for Usage of a Large Calligraphy Set Under RSX11M. Presented at the 1980 Fall DECUS U.S. Symposium, November 4-7, 1980, San Diego, California. Published in Proceedings, Volume 7, Number 2, Fall 1980, p. 391-396.  
(Avail: Digital Equipment Computer Users Society Subject Category 60 RTOP 505-32-03)
- Greene, George C.; and Raney, John P.: An Overview of NASA's Propeller and Rotor Noise Research. Presented at the AIAA 6th Aeroacoustics Conference, June 4-6, 1980, Hartford, Connecticut. AIAA Paper No. 80-0992.  
(Avail: AIAA Subject Category 71 RTOP 505-42-13)

- Hardin, Jay C.: Noise Generation at the Side Edges of Flaps. Presented at the AIAA 6th Aeroacoustics Conference, June 4-6, 1980, Hartford, Connecticut. AIAA Paper No. 80-0978.  
(Avail: AIAA Subject Category 71 RTOP 505-32-03)
- Hardin, Jay C.; Yu, James C.; Patterson, John L.; and Tribble, Waring, Jr.: The Pressure/Flow Relation in Bronchial Airways on Expiration. Presented at the Second Mid-Atlantic Conference on Bio-Fluid Mechanics, May 5-7, 1980, Blacksburg, Virginia.  
(Avail: Plenum Publishing Co. (Bio-Fluid Mechanics-2, 1980)  
Subject Category 51 RTOP 505-31-23)
- Hubbard, Harvey H.; and Morgan, Homer G.: Aircraft Noise Control in the 1980's. Presented at the 1980 International Conference on Noise Control Engineering, December 8-10, 1980, Miami, Florida. Published in Proceedings, Volume I, 1980, p. 31-62.  
(Avail: Noise Control Foundation Subject Category 05 RTOP 505-32-03)
- McGary, Michael C.; and Crocker, Malcolm J.: Surface Acoustical Intensity Measurements on a Diesel Engine. Presented at the Ninety-Ninth Meeting of the Acoustical Society of America, April 21-25, 1980, Atlanta, Georgia.  
(Avail: NTIS, TM-81807 Subject Category 71 RTOP 505-33-53)
- McLaughlin, D. K.; and Seiner, J. M.: On the Noise Generated by Large Scale Instabilities in Supersonic Jets. Presented at the AIAA 6th Aeroacoustics Conference, June 4-6, 1980, Hartford, Connecticut. AIAA Paper No. 80-0964.  
(Avail: AIAA Subject Category 71 RTOP 505-32-03)
- Mixon, John S.; Greene, George C.; and Dempsey, Thomas K.: Sources, Control, and Effects of Noise From Aircraft. Presented at the 1980 Aircraft Safety and Operating Problems Conference, November 5-7, 1980, Hampton, Virginia.  
(Avail: NTIS, NASA CP-2170 Subject Category 71 RTOP 505-33-53)
- Norum, Thomas D.; and Seiner, Jack M.: Location and Propagation of Shock Associated Noise From Supersonic Jets. Presented at the AIAA 6th Aeroacoustics Conference, June 4-6, 1980, Hartford, Connecticut. AIAA Paper No. 80-0983.  
(Avail: AIAA Subject Category 71 RTOP 505-32-03)
- Padula, S. L.: Prediction of Noise Constrained Optimum Takeoff Procedures. Presented at the AIAA 6th Aeroacoustics Conference, June 4-6, 1980, Hartford, Connecticut. AIAA Paper No. 80-1055.  
(Avail: AIAA Subject Category 71 RTOP 505-32-03)
- Parrott, Tony L.; and Lester, Harold C.: Calculated and Measured Performance of a "Near Ideal" Locally Reacting Acoustic Absorber in Grazing Incidence. Presented at the AIAA 6th Aeroacoustics Conference, June 4-6, 1980, Hartford, Connecticut. AIAA Paper No. 80-0989.  
(Avail: AIAA Subject Category 71 RTOP 505-32-03)

Powell, Clemans A.: Annoyance Due to Multiple Airplane Noise Exposure. Presented at the Ninety-Ninth Meeting of the Acoustical Society of America, April 21-25, 1980, Atlanta, Georgia.  
(Avail: NTIS, NASA TP-1706 Subject Category 45 RTOP 505-35-13)

Raney, J. P.; Hoad, D. R.; and Biggers, J. C.: Overview of NASA's Rotorcraft Acoustics Program. Presented at the HAA/NASA Advanced Rotorcraft Technology Workshop, December 3-5, 1980, Palo Alto, California.  
(Avail: HAA, Proceedings Pending Subject Category 71 RTOP 505-42-13)

Raney, J. P.; Padula, S. L.; and Zorumski, W. E.: NASA Progress in Aircraft Noise Prediction. Presented at the 1980 Aircraft Safety and Operating Problems Conference, November 5-7, 1980, Hampton, Virginia.  
(Avail: NTIS, NASA CP-2710; NASA TM-81915 Subject Category 71 RTOP 505-32-03)

Seiner, J. M.; and Norum, T. D.: Aerodynamic Aspects of Shock Containing Jet Plumes. Presented at the AIAA 6th Aeroacoustics Conference, June 4-6, 1980, Hartford, Connecticut. AIAA Paper No. 80-0965.  
(Avail: AIAA Subject Category 71 RTOP 505-32-03)

Ville, Jean-Michel; and Silcox, Richard J.: Inlet Contour and Flow Effects on Radiation. Presented at the AIAA 6th Aeroacoustics Conference, June 4-6, 1980, Hartford, Connecticut. AIAA Paper No. 80-0966.  
(Avail: AIAA Subject Category 71 RTOP 505-32-03)

#### Computer Programs

No computer programs.

#### Tech Briefs

Maestrello, Lucio: Suppressing Buzz-Saw Noise in Jet Engines. NASA Tech Brief LAR-12645. Released 1980.  
(Avail: NASA Langley Technology Utilization Office Category: Mechanics)

#### Patents

No patents.

#### Unpublished Research

Dempsey, Thomas K.: Single-Event Aircraft Noise Criteria. Presented at the Eighty-Eighth Annual Convention of the American Psychological Association, September 1-5, 1980, Montreal, Quebec, Canada.

- Dempsey, Thomas K.; Shepherd, Kevin P.; and Stephens, David G.: Synthesized Propfan Interior Noise. Presented at the 100th Meeting of the Acoustical Society of America, November 17-21, 1980, Los Angeles, California.
- Farassat, F.: Applications of Some Concepts From Generalized Function Theory to Problems of Aerodynamics and Aeroacoustics. Presented at the Stanford University Fluid Mechanics Seminar, March 19, 1980, Stanford, California.
- Gatski, T. B.: Computation of Axisymmetric Turbulent Jet Flow Using Reynolds Stress Closure Equations. Presented at the Thirty-Third Annual Meeting of the American Physical Society, November 23-25, 1980, Ithaca, New York.
- Key, Kelli F.; and Powell, Clemans A.: Effects of Conversation Interference on Annoyance Due to Aircraft Noise. Presented at the 100th Meeting of the Acoustical Society of America, November 17-21, 1980, Los Angeles, California.
- Maestrello, L.: The Effect of a Heated Jet on Sound. Presented at the Thirty-Third Annual Meeting of the American Physical Society, November 23-25, 1980, Ithaca, New York.
- Maestrello, L.; and Bayliss, A.: Numerical Verification of the Theory of Noise Generation Due to Mean Flow—Turbulence Interaction. Presented at the Thirty-Third Annual Meeting of the American Physical Society, November 23-25, 1980, Ithaca, New York.
- Patterson, John L., Jr.; Hardin, Jay C.; and Seiner, John M.: Medical College "Genesis of Breath Sounds - Preliminary Verification of Theory." Presented at the 5th International Lung Sound Conference, September 15-16, 1980, London, England.
- Posey, J. W.; and Clark, L. R.: Acoustical Radiation From Non-Axisymmetric Duct Inlets. Presented at the 100th Meeting of the Acoustical Society of America, November 17-21, 1980, Los Angeles, California.
- Posey, J. W.; Clark, L. R.; and Silcox, R. J.: Angles of Peak Sound Radiation From Axisymmetric Duct Inlets. Presented at the 100th Meeting of the Acoustical Society of America, November 17-21, 1980, Los Angeles, California.
- Shepherd, Kevin P.; Dempsey, Thomas K.; and Mayes, William H.: Interior Noise and Vibration Environment of Propeller Aircraft. Presented at the 100th Meeting of the Acoustical Society of America, November 17-21, 1980, Los Angeles, California.

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PUBLICATIONS FOR ACOUSTICS AND NOISE REDUCTION DIVISION

Formal Reports

- DeLoach, Richard: Airport Noise Impact Reduction Through Operations. NASA TM-81970, May 1981, 21 p.  
(Avail: NTIS Subject Category 71 RTOP 505-35-13)
- Hardin, Jay C.; and Preisser, John S.: Stochastic Analysis of Spectral Broadening by a Free Turbulent Shear Layer. NASA TP-1816, May 1981, 24 p.  
(Avail: NTIS Subject Category 71 RTOP 505-32-03)
- Hubbard, Harvey H.; and Powell, Clemans A.: Acoustic Facilities for Human Factors Research at NASA Langley Research Center - Description and Operational Capabilities. NASA TM-81975, June 1981, 13 p.  
(Avail: NTIS Subject Category 71 RTOP 505-35-13)
- Martin, R. M.; and Farassat, F.: Users' Manual for a Computer Program To Calculate Discrete Frequency Noise of Conventional and Advanced Propellers. NASA TM-83135, August 1981, 89 p.  
(Avail: NTIS Subject Category 71 RTOP 505-41-43)
- Michel, Ulf; and Michalke, Alfons: Prediction of Flyover Jet Noise Spectra From Static Tests. NASA TM-83219, December 1981, 25 p.  
(Avail: NTIS Subject Category 71 RTOP 505-32-03)
- Mixson, John S.; Greene, George C.; and Dempsey, Thomas K.: Sources, Control, and Effects of Noise From Aircraft Propellers and Rotors. NASA TM-81971, April 1981, 22 p.  
(Avail: NTIS Subject Category 71 RTOP 505-33-53)
- Mueller, Arnold W.; and Preisser, John S.: Flight Test of a Pure-Tone Acoustic Source. NASA TP-1898, October 1981, 38 p.  
(Avail: NTIS Subject Category 71 RTOP 505-32-03)
- Powell, Clemans A.: Subjective Field Study of Response to Impulsive Helicopter Noise. NASA TP-1833, April 1981, 40 p.  
(Avail: NTIS Subject Category 71 RTOP 505-35-13)
- Raney, J. P.; Padula, S. L.; and Zorumski, W. E.: NASA Progress in Aircraft Noise Prediction. NASA TM-81915, March 1981, 38 p.  
(Avail: NTIS Subject Category 71 RTOP 505-32-03)
- Shearin, John G.: Airframe Noise of a Small Model Transport Aircraft and Scaling Effects. NASA TP-1858, May 1981, 24 p.  
(Avail: NTIS Subject Category 71 RTOP 505-32-03)
- Watson, Willie R.: Noise Suppression Characteristics of Peripherally Segmented Duct Liners. NASA TP-1904, September 1981, 41 p.  
(Avail: NTIS Subject Category 71 RTOP 505-32-03)

- Willis, Conrad M.; and Daniels, Edward F.: Experimental Study of Noise Reduction for an Unstiffened Cylindrical Model of an Airplane Fuselage. NASA TP-1964, December 1981, 34 p.  
(Avail: NTIS Subject Category 71 RTOP 505-33-53)
- Willshire, Kelli F.; and Powell, Clemans A.: Effects of Activity Interference on Annoyance Due to Aircraft Noise. NASA TP-1938, November 1981, 28 p.  
(Avail: NTIS Subject Category 45 RTOP 505-35-13)
- Yu, James C.: Mean-Flow and Turbulence Measurements in the Vicinity of the Trailing Edge of an NACA 63<sub>1</sub>-012 Airfoil. NASA TP-1845, May 1981, 42 p.  
(Avail: NTIS Subject Category 34 RTOP 505-32-03)

#### Quick-Release Technical Memorandums

- Clevenson, Sherman A.: Effect of Tactile Vibration on Annoyance to Synthesized Propfan Noise. NASA TM-83258, December 1981, 15 p.  
(Avail: NTIS Subject Category 53 RTOP 505-35-13)
- Fields, James M.: A Catalog of Social Surveys of Residents' Reactions to Environmental Noise (1943-1980). NASA TM-83187, August 1981, 177 p.  
(Avail: NTIS Subject Category 45 RTOP 505-35-13)
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(Subject Category 71 RTOP 505-61-11)
- Silcox, R. J.: Appraisal of an Active Noise Control Scheme in a 1-D Waveguide. Presented at the 111th Meeting of the Acoustical Society of America, May 12-16, 1986, Cleveland, Ohio. Abstract published in The Journal of the Acoustical Society of America, Supplement 1, Volume 79, Spring 1986, p. S18.  
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(Subject Category 71 RTOP 505-61-11)
- Zorunski, W. E.; and Pao, S. P.: Presented at the First National Aero-Space Plane Technology Symposium, May 20-22, 1986, Hampton, Virginia. Paper No. 117. In NASP CP-1007.  
(RTOP 763-01-41)

Zorumski, W. E.; and Willshire, W. L., Jr.: Propagation of Normal Acoustic Modes in an Atmospheric Boundary Layer. Presented at the 111th Meeting of the Acoustical Society of America, May 12-16, 1986, Cleveland, Ohio. Abstract published in The Journal of the Acoustical Society of America, Supplement 1, Volume 79, Spring 1986, p. S18.  
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#### Computer Programs

No computer programs.

#### Tech Briefs

Vaicaitis, R. (Columbia University): New Aircraft Sidewall Acoustic Treatment. NASA Tech Brief LAR-13545.

#### Patents

No patents.



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