Bibliography

Abid, R. and Speziale, C. G. (1992), "Predicting Equilibrium States with Reynolds Stress Closures in Channel Flow and Homogeneous Shear Flow," ICASE Report 92-28, Univ. Space Research Assoc., Hampton, VA.

Abramowitz, M. and Stegun, I. A. (1965), Handbook of Mathematical Functions, Dover Publications, Inc., New York.

Ahmed, S. R., Ramm, G. and Faltin, G. (1984), "Some Salient Features of the Time-Averaged Ground Vehicle Wake," SAE Paper 840300, Society of Automotive Engineers, Warrendale, PA.

Andersen, P. S., Kays, W. M. and Moffat, R. J. (1972), "The Turbulent Boundary Layer on a Porous Plate: An Experimental Study of the Fluid Mechanics for Adverse Free-Stream Pressure Gradients," Report No. HMT-15, Dept. Mech. Eng., Stanford University, CA.

Anderson, D. A., Tannehill, J. C. and Pletcher, R. H. (1984), Computational Fluid Dynamics and Heat Transfer, Hemisphere Publishing, Washington.

Baldwin, B. S. and Lomax, H. (1978), "Thin-Layer Approximation and Algebraic Model for Separated Turbulent Flows," AIAA Paper 78-257, Huntsville, AL.

Baldwin, B. S. and Barth, T. J. (1990), "A One-Equation Turbulence Transport Model for High Reynolds Number Wall-Bounded Flows," NASA TM-102847.

Bardina, J., Ferziger, J. H. and Reynolds, W. C. (1983), "Improved Turbulence Models Based on Large Eddy Simulation of Homogeneous, Incompressible, Turbulent Flows," Report No. TF-19, Dept. Mech. Eng., Stanford University, CA.

Barnwell, R. W. (1992), "Nonadiabatic and Three-Dimensional Effects in Compressible Turbulent Boundary Layers," *AIAA Journal*, Vol. 30, No. 4, pp. 897-904.

BIBLIOGRAPHY

Beam, R. M. and Warming, R. F. (1976), "An Implicit Finite-Difference Algorithm for Hyperbolic Systems in Conservation Law Form," *Journal of Computational Physics*, Vol. 22, pp. 87-110.

Bender, C. M. and Orszag, S. A. (1978), Advanced Mathematical Methods for Scientists and Engineers, McGraw-Hill, New York.

Bergé, P., Pomeau, Y. and Vidal, C. (1984), Order within Chaos: Towards a Deterministic Approach to Turbulence, John Wiley & Sons, New York.

Blottner, F. G. (1974), "Variable Grid Scheme Applied to Turbulent Boundary Layers," *Comput. Meth. Appl. Mech. & Eng.*, Vol. 4, No. 2, pp. 179-194.

Boussinesq, J. (1877), "Théorie de l'Écoulement Tourbillant," Mem. Présentés par Divers Savants Acad. Sci. Inst. Fr., Vol. 23, pp. 46-50.

Bradbury, L. J. S. (1965), "The Structure of a Self-Preserving Turbulent Plane Jet," *Journal of Fluid Mechanics*, Vol. 23, pp. 31-64.

Bradshaw, P., Ferriss, D. H. and Atwell, N. P. (1967), "Calculation of Boundary Layer Development Using the Turbulent Energy Equation," *Journal of Fluid Mechanics*, Vol. 28, Pt. 3, pp. 593-616.

Bradshaw, P. (1969), "The Response of a Constant-Pressure Turbulent Boundary Layer to the Sudden Application of an Adverse Pressure Gradient," R. & M. Number 3575, British Aeronautical Research Council.

Bradshaw, P. (1972), "The Understanding and Prediction of Turbulent Flow," *The Aeronautical Journal*, Vol. 76, No. 739, pp. 403-418.

Bradshaw, P. (1973a), "Effects of Streamline Curvature on Turbulent Flow," AGARD-AG-169.

Bradshaw, P. (1973b), "The Strategy of Calculation Methods for Complex Turbulent Flows," Imperial College Aero. Report No. 73-05.

Bradshaw, P. (1992), "Turbulence: The Chief Outstanding Difficulty of Our Subject," Fifth Symposium on Numerical and Physical Aspects of Aerodynamic Flows, 13-15 January 1992, California State University, Long Beach, CA.

Brown, J. D. (1986), "Two Component LDV Investigation of Shock Related Turbulent Boundary Layer Separation with Increasing Three Dimensionality," PhD Thesis, U. C. Berkeley, Berkeley, CA.

Bush, W. B. and Fendell, F. E. (1972), "Asymptotic Analysis of Turbulent Channel and Boundary-Layer Flow," *Journal of Fluid Mechanics*, Vol. 56, Pt. 4, pp. 657-681.

Castro, I. P. and Bradshaw, P. (1976), "The Turbulence Structure of a Highly Curved Mixing Layer," *Journal of Fluid Mechanics*, Vol. 73, p. 265.

Cazalbou, J. B., Spalart, P. R. and Bradshaw, P. (1994), "On the Behavior of Two-Equation Models at the Edge of a Turbulent Region," *Physics* of Fluids, Vol. 6, No. 5, pp. 1797-1804. Cebeci, T. and Smith, A. M. O. (1974), Analysis of Turbulent Boundary Layers, Ser. in Appl. Math. & Mech., Vol. XV, Academic Press.

Chambers, T. L. and Wilcox, D. C. (1977), "Critical Examination of Two-Equation Turbulence Closure Models for Boundary Layers," AIAA Journal, Vol. 15, No. 6, pp. 821-828.

Champagne, F. H., Harris, V. G. and Corrsin, S. (1970), "Experiments on Nearly Homogeneous Turbulent Shear Flow," *Journal of Fluid Mechanics*, Vol. 41, Pt. 1, pp. 81-139.

Champney, J. (1989), "Modeling of Turbulence for Compression Corner Flows and Internal Flows," AIAA Paper 89-2344, Monterey, CA.

Chapra, S. C. and Canale, R. P. (1985), Numerical Methods for Engineers: With Personal Computer Applications, McGraw-Hill, New York.

Chien, K.-Y. (1982), "Predictions of Channel and Boundary-Layer Flows with a Low-Reynolds-Number Turbulence Model," *AIAA Journal*, Vol. 20, No. 1, pp. 33-38.

Choi, K. S. and Lumley, J. L. (1984), "Return to Isotropy of Homogeneous Turbulence Revisited," *Turbulence and Chaotic Phenomena in Fluids*, ed. T. Tatsumi, New York: North-Holland, pp. 267-272.

Chou, P. Y. (1945), "On the Velocity Correlations and the Solution of the Equations of Turbulent Fluctuation," Quart. Appl. Math., Vol. 3, p. 38.

Clark, J. A. (1968), "A Study of Incompressible Turbulent Boundary Layers in Channel Flows," Transactions of the ASME, Paper 68-FE-26.

Clark, R. A., Ferziger, J. H. and Reynolds, W. C. (1979), "Evaluation of Subgrid-Scale Models Using an Accurately Simulated Turbulent Flow," *Journal of Fluid Mechanics*, Vol. 91, pp. 1-16.

Clauser, F. H. (1956), "The Turbulent Boundary Layer", Advances in Applied Mechanics, Vol. IV, Academic Press, New York, pp. 1-51.

Coakley, T. J. (1983), "Turbulence Modeling Methods for the Compressible Navier-Stokes Equations," AIAA Paper 83-1693, Danvers, MA.

Coleman, G. N. and Mansour, N. N. (1991), "Simulation and Modeling of Homogeneous Compressible Turbulence under Isotropic Mean Compression," Eighth Symposium on Turbulent Shear Flows, Munich, Germany.

Coles, D. E. and Hirst, E. A. (1969), Computation of Turbulent Boundary Layers-1968 AFOSR-IFP-Stanford Conference, Vol. II, Stanford University, CA.

Comte-Bellot, G. (1963), "Contribution a l'Étude de la Turbulence de Conduite," PhD Thesis, University of Grenoble, France.

Comte-Bellot, G. (1965), "Ecoulement Turbulent entre Deux Parois Parallèles," Publ. Sci. Tech. Ministère de l'Air, No. 419.

Comte-Bellot, G. and Corrsin, S. (1971), "Simple Eulerian Time Correlation of Full- and Narrow-Band Velocity Signals in Grid Generated Isotropic Turbulence," *Journal of Fluid Mechanics*, Vol. 48, pp. 273-337. Cooley, W. W. and Tukey, J. W. (1965), "An Algorithm for the Machine Calculation of Complex Fourier Series," *Math. Comp.*, Vol. 19, No. 90, pp. 297-301.

Corrsin, S. and Kistler, A. L. (1954), "The Free-Stream Boundaries of Turbulent Flows," NACA TN 3133.

Courant, R. and Hilbert, D. (1966), Methods of Mathematical Physics, Vol. II, Interscience Publishers, John Wiley & Sons, New York.

Courant, R., Friedrichs, K. and Lewy, H. (1967), "On the Partial Difference Equations of Mathematical Physics," *IBM Journal*, pp. 215-234.

Craft, T. J., Fu, S., Launder, B. E. and Tselepidakis, D. P. (1989), "Developments in Modeling the Turbulent Second-Moment Pressure Correlations," Report No. TFD/89/1, Mech. Eng. Dept., Manchester Institute of Science and Technology, England.

Craft, T. J. and Launder, B. E. (1992), "New Wall-Reflection Model Applied to the Turbulent Impinging Jet," *AIAA Journal*, Vol. 30, No. 12, pp. 2970-2972.

Crank, J. and Nicolson, P. (1947), "A Practical Method for Numerical Evaluation of Solutions of Partial Differential Equations of the Heat-Conduction Type," *Proceedings of the Cambridge Philosophical Society*, Vol. 43, No. 50, pp. 50-67.

Crow, S. C. (1968), "Viscoelastic Properties of Fine-Grained Incompressible Turbulence," *Journal of Fluid Mechanics*, Vol. 33, Pt. 1, pp. 1-20.

Daly, B. J. and Harlow, F. H. (1970), "Transport Equations in Turbulence," *Physics of Fluids*, Vol. 13, pp. 2634-2649.

Davidov, B. I. (1961), "On the Statistical Dynamics of an Incompressible Fluid," *Doklady AN. SSSR*, Vol. 136, p. 47.

Deardorff, J. W. (1970), "A Numerical Study of Three-Dimensional Turbulent Channel Flow at Large Reynolds Numbers," *Journal of Fluid Mechanics*, Vol. 41, Pt. 2, pp. 453-480.

Deardorff, J. W. (1973), "The Use of Subgrid Transport Equations in a Three-Dimensional Model of Atmospheric Turbulence," *ASME*, Journal of Fluids Engineering, Vol. 95, pp. 429-438.

Deissler, R. G. (1989), "On the Nature of Navier-Stokes Turbulence," NASA TM-109183.

Demuren, A. O. (1991), "Calculation of Turbulence-Driven Secondary Motion in Ducts with Arbitrary Cross Section," *AIAA Journal*, Vol. 29, No. 4, pp. 531-537.

Dhawan, S. and Narasimha, R. (1958), "Some Properties of Boundary Layer Flow During the Transition from Laminar to Turbulent Motion," *Journal of Fluid Mechanics*, Vol. 3, pp. 418-436. Donaldson, C. duP. and Rosenbaum, H. (1968), "Calculation of the Turbulent Shear Flows Through Closure of the Reynolds Equations by Invariant Modeling," ARAP Report No. 127, Aeronautical Research Associates of Princeton, Princeton, NJ.

Donaldson, C. duP. (1972), "Construction of a Dynamic Model of the Production of Atmospheric Turbulence and the Dispersal of Atmospheric Pollutants," ARAP Report No. 175, Aeronautical Research Associates of Princeton, Princeton, NJ.

Driver, D. M. and Seegmiller, H. L. (1985), "Features of a Reattaching Turbulent Shear Layer in Divergent Channel Flow," *AIAA Journal*, Vol. 23, No. 1, pp. 163-171.

Driver, D. M. (1991), "Reynolds Shear Stress Measurements in a Separated Boundary Layer," AIAA Paper 91-1787, Honolulu, HI.

Dryden, H. L. (1959), Aerodynamics and Jet Propulsion, Vol. V, University Press, Princeton, NJ.

DuFort, E. C. and Frankel, S. P. (1953), "Stability Conditions in the Numerical Treatment of Parabolic Differential Equations," *Math. Tables* and Other Aids to Computation, Vol. 7, pp. 135-152.

Dutoya, D. and Michard, P. (1981), "A Program for Calculating Boundary Layers Along Compressor and Turbine Blades," *Numerical Methods in Heat Transfer*, edited by R. W. Lewis, Morgan and O. C. Zienkiewicz, John Wiley & Sons, New York.

Eaton, J. K. and Johnston, J. P. (1980), "Turbulent Flow Reattachment: An Experimental Study of the Flow and Structure Behind a Backward-Facing Step," Report No. MD-39, Dept. Mech. Eng., Stanford University, CA.

Emmons, H. W. (1954), "Shear Flow Turbulence," Proceedings of the 2^{nd} U. S. Congress of Applied Mechanics, ASME.

Erlebacher, G., Hussaini, M. Y., Speziale, C. G. and Zang, T. A. (1987), "Toward the Large-Eddy Simulations of Compressible Turbulent Flows," ICASE Report 87-20, Univ. Space Research Assoc., Hampton, VA.

Escudier, M. P. (1966), "The Distribution of Mixing-Length in Turbulent Flows Near Walls," Imperial College, Heat Transfer Section Report TWF/TN/12.

Fage, A. and Falkner, V. M. (1932), "Note on Experiments on the Temperature and Velocity in the Wake of a Heated Cylindrical Obstacle," *Proc.* Roy. Soc., Lond., Vol. A135, pp. 702-705.

Fan, S., Lakshminarayana, B. and Barnett, M. (1993), "A Low-Reynolds Number k- ϵ Model for Unsteady Turbulent Boundary Layer Flows," AIA.A Journal, Vol. 31, No. 10, pp. 1777-1784.

Favre, A. (1965), "Equations des Gaz Turbulents Compressibles," *Journal de Mecanique*, Vol. 4, No. 3, pp. 361-390.

Fendell, F. E. (1972), "Singular Perturbation and Turbulent Shear Flow Near Walls," *Journal of the Astronautical Sciences*, Vol. XX, No. 3, pp. 129-165.

Fernholz, H. H. and Finlay, P. J. (1981), "A Further Compilation of Compressible Boundary Layer Data with a Survey of Turbulence Data," AGARDograph 263.

Ferziger, J. H. (1976), "Large Eddy Numerical Simulations of Turbulent Flows," AIAA Paper 76-347, San Diego, CA.

Ferziger, J. H. (1989), "Estimation and Reduction of Numerical Error," Forum on Methods of Estimating Uncertainty Limits in Fluid Flow Computations, ASME Winter Annual Meeting, San Francisco, CA.

Fisher, D. F. and Dougherty, N. S. (1982), "Transition Measurements on a 10° Cone at Mach Numbers from 0.5 to 2.0," NASA TP-1971.

Fu, S., Launder, B. E. and Tselepidakis, D. P. (1987), "Accommodating the Effects of High Strain Rates in Modelling the Pressure-Strain Correlation," Report No. TFD/87/5, Mech. Eng. Dept., Manchester Institute of Science and Technology, England.

Gatski, T. B. and Speziale, C. G. (1992), "On Explicit Algebraic Stress Models for Complex Turbulent Flows," ICASE Report No. 92-58, Univ. Space Research Assoc., Hampton, VA.

Germano, M., Piomelli, U., Moin, P. and Cabot, W. (1990), "A Dynamic Subgrid-Scale Eddy Viscosity Model," *Proceedings of the 1990 Summer Program*, Center for Turbulence Research, Stanford, CA.

Ghosal, S., Lund, T. S. and Moin, P. (1992), "A Dynamic Localization Method for Large Eddy Simulation of Turbulent Flows," NASA Ames, Stanford Center for Turbulence Research, Manuscript 139.

Gibson, M. M. and Launder, B. E. (1978), "Ground Effects on Pressure Fluctuations in the Atmospheric Boundary Layer," *Journal of Fluid Mechanics*, Vol. 86, Pt. 3, pp. 491-511.

Gibson, M. M. and Younis, B. A. (1986), "Calculation of Swirling Jets with a Reynolds Stress Closure," *Physics of Fluids*, Vol. 29, pp. 38-48.

Gleick, J. (1988), Chaos: Making a New Science, Penguin Books, New York.

Glushko, G. (1965), "Turbulent Boundary Layer on a Flat Plate in an Incompressible Fluid," *Izvestia Academy Nauk. SSSR Mekh.*, No. 4, p. 13.

Goddard, F. E. Jr. (1959), "Effect of Uniformly Distributed Roughness on Turbulent Skin-Friction Drag at Supersonic Speeds," J. Aero/Space Sciences, Vol. 26, No. 1, pp. 1-15, 24.

Godunov, S. K. (1959), "Finite Difference Method for Numerical Computation of Discontinuous Solutions of the Equations of Fluid Dynamics," *Matematicheskii Sbornik*, Vol. 47, No. 3, pp. 271-306. Goidberg, U. C. (1991), "Derivation and Testing of a One-Equation Model Based on Two Time Scales," *AIAA Journal*, Vol. 29, No. 8, pp. 1337-1340.

Goldstein, S. (1938), Modern Developments in Fluid Dynamics, Vol. 2, p. 331, Oxford University Press, NY.

Gottlieb, D. and Orszag, S. A. (1977), "Numerical Analysis of Spectral Methods: Theory and Application," CBMS-NSF Reg. Conf. Ser. Appl. Math., Vol. 26, Philadelphia: SIAM.

Grotzbach, G. (1979), "Numerical Investigation of Radial Mixing Capabilities in Strongly Buoyancy-Influenced Vertical, Turbulent Channel Flows," Nucl. Eng. Des., Vol. 54, pp. 49-66.

Halleen, R. M. and Johnston, J. P. (1967), "The Influence of Rotation on Flow in a Long Rectangular Channel - An Experimental Study," Report No. MD-18, Dept. Mech. Eng., Stanford University, CA.

Han, T. (1989), "Computational Analysis of Three-Dimensional Turbulent Flow Around a Bluff Body in Ground Proximity," *AIAA Journal*, Vol. 27, No. 9, pp. 1213-1219.

Hanjalić, K. (1970), "Two-Dimensional Flow in an Axisymmetric Channel," PhD Thesis, University of London.

Hanjalić, K. and Launder, B. E. (1976), "Contribution Towards a Reynolds-Stress Closure for Low-Reynolds-Number Turbulence," *Journal* of Fluid Mechanics, Vol. 74, Pt. 4, pp. 593-610.

Hanjalić, K. and Launder, B. E. (1980), "Sensitizing the Dissipation Equation to Irrotational Strains," *ASME, Journal of Fluids Engineering*, Vol. 102, pp. 34-40.

Harlow, F. H. and Nakayama, P. I. (1968), "Transport of Turbulence Energy Decay Rate," Los Alamos Sci. Lab., University of California Report LA-3854.

Harris, V. G., Graham, J. A. H. and Corrsin, S. (1977), "Further Experiments in Nearly Homogeneous Turbulent Shear Flow," *Journal of Fluid Mechanics*, Vol. 81, p. 657.

Harris, J. E. and Blanchard, D. K. (1982), "Computer Program for Solving Laminar, Transitional, or Turbulent Compressible Boundary-Layer Equations for Two-Dimensional and Axisymmetric Flow," NASA TM-83207.

Hassid, S. and Poreh, M. (1978), "A Turbulent Energy Dissipation Model for Flows with Drag Reduction," ASME, Journal of Fluids Engineering, Vol. 100, pp. 107-112.

Haworth, D. C. and Pope, S. B. (1986), "A Generalized Langevin Model for Turbulent Flows," *Physics of Fluids*, Vol. 29, pp. 387-405.

Hayes, W. D. and Probstein, R. F. (1959), Hypersonic Flow Theory, Academic Press, p. 290.

Higuchi, H. and Rubesin, M. W. (1978), "Behavior of a Turbulent Boundary Layer Subjected to Sudden Transverse Strain," AIAA Paper 78-201, Huntsville, AL.

Hildebrand, F. B. (1976), Advanced Calculus for Applications, Second Edition, Prentice-Hall, Englewood Cliffs, NJ.

Hinze, J. O. (1975), Turbulence, Second Ed., McGraw-Hill, New York.

Hoffmann, G. H. (1975), "Improved Form of the Low-Reynolds-Number $k-\epsilon$ Turbulence Model," *Physics of Fluids*, Vol. 18, pp. 309-312.

Hopkins, E. J. and Inouye, M. (1971), "An Evaluation of Theories for Predicting Turbulent Skin Friction and Heat Transfer on Flat Plates at Supersonic and Hypersonic Mach Numbers," *AIAA Journal*, Vol. 9, No. 6, pp. 993-1003.

Horstman, C. C. (1992), "Hypersonic Shock-Wave/Turbulent-Boundary-Layer Interaction Flows," AIAA Journal, Vol. 30, No. 6, pp. 1480-1481.

Huang, P. G., Bradshaw, P. and Coakley, T. J. (1992), "Assessment of Closure Coefficients for Compressible-Flow Turbulence Models," NASA TM-103882.

Huang, P. G. and Coakley, T. J. (1992), "An Implicit Navier-Stokes Code for Turbulent Flow Modeling," AIAA Paper 92-547, Reno, NV.

Hung, C. M. (1976), "Development of Relaxation Turbulence Models," NASA CR-2783.

Ibbetson, A. and Tritton, D. J. (1975), "Experiments on Turbulence in Rotating Fluid," Journal of Fluid Mechanics, Vol. 68, Pt. 4, pp. 639-672.

Inger, G. (1986), "Incipient Separation and Similitude Properties of Swept Shock/Turbulent Boundary Layer Interactions," AIAA Paper 86-345, Reno, NV.

Jayaraman, R., Parikh, P. and Reynolds, W. C. (1982), "An Experimental Study of the Dynamics of an Unsteady Turbulent Boundary Layer," Report No. TF-18, Dept. Mech. Eng., Stanford University, CA.

Jeans, J. (1962), An Introduction to the Kinetic Theory of Gases, Cambridge University Press, London.

Johnson, D. A. and King, L. S. (1985), "A Mathematically Simple Turbulence Closure Model for Attached and Separated Turbulent Boundary Layers," *AIAA Journal*, Vol. 23, No. 11, pp. 1684-1692.

Johnson, D. A. (1987), "Transonic Separated Flow Predictions with an Eddy-Viscosity/Reynolds-Stress Closure Model," *AIAA Journal*, Vol. 25, No. 2, pp. 252-259.

Johnson, D. A. and Coakley, T. J. (1990), "Improvements to a Nonequilibrium Algebraic Turbulence Model," *AIAA Journal*, Vol. 28, No. 11, pp. 2000-2003. Johnston, J. P., Halleen, R. M. and Lezius, D. K. (1972), "Effects of a Spanwise Rotation on the Structure of Two-Dimensional Fully-Developed Turbulent Channel Flow," *Journal of Fluid Mechanics*, Vol. 56, pp. 533-557.

Jones, W. P. and Launder, B. E. (1972), "The Prediction of Laminarization with a Two-Equation Model of Turbulence," *International Journal* of Heat and Mass Transfer, Vol. 15, pp. 301-314.

Keefe, L. (1990), "Connecting Coherent Structures and Strange Attractors," in *Near-Wall Turbulence - 1988 Zaric Memorial Conference*, S. J. Kline and N. H. Afgan, eds., Hemisphere, Washington.

Kevorkian, J. and Cole, J. D. (1981), Perturbation Methods in Applied Mathematics, Springer-Verlag, New York.

Kim, J., Kline, S. J. and Johnston, J. P. (1980), "Investigation of a Reattaching Turbulent Shear Layer: Flow Over a Backward-Facing Step," *ASME, Journal of Fluids Engineering*, Vol. 102, pp. 302-308.

Kim, J., Moin, P. and Moser, R. (1987), "Turbulence Statistics in Fully Developed Channel Flow at Low Reynolds Number," *Journal of Fluid Mechanics*, Vol. 177, pp. 133-166.

Klebanoff, P. S. (1956), "Characteristics of Turbulence in a Boundary Layer with Zero Pressure Gradient," NACA TN 3178.

Kline, S. J., Morkovin, M. V., Sovran, G. and Cockrell, D. J. (1969), Computation of Turbulent Boundary Layers-1968 AFOSR-IFP-Stanford Conference, Vol. I, Stanford University, CA.

Kline, S. J., Cantwell, B. J. and Lilley, G. M. (1981), 1980-81 AFOSR-HTTM-Stanford Conference on Complex Turbulent Flows, Stanford University, CA.

Knight, D. D., Horstman, C. C., Shapey, B and Bogdanoff, S. (1987), "Structure of Supersonic Flow Past a Sharp Fin," *AIAA Journal*, Vol. 25, No. 10, pp. 1331-1337.

Knight, D. D. (1993), "Numerical Simulation of 3-D Shock Wave Turbulent Boundary-Layer Interactions," AGARD/FDP Short Course on Shock Wave/Boundary Layer Interactions in Supersonic and Hypersonic Flows, von Kármán Institute for Fluid Dynamics, Brussels, Belgium, (May 24-28, 1993).

Kolmogorov, A. N. (1941), "Local Structure of Turbulence in Incompressible Viscous Fluid for Very Large Reynolds Number," *Doklady AN*. SSSR, Vol. 30, pp. 299-303.

Kolmogorov, A. N. (1942), "Equations of Turbulent Motion of an Incompressible Fluid," *Izvestia Academy of Sciences, USSR; Physics*, Vol. 6, Nos. 1 and 2, pp. 56-58.

Lai, Y. G., So, R. M. C., Anwer, M. and Hwang, B. C. (1991), "Calculations of a Curved-Pipe Flow Using Reynolds Stress Closure," *Journal of Mechanical Engineering Science*, Vol. 205, Part C, pp. 231-244. Lakshminarayana, B. (1986), "Turbulence Modeling for Complex Shear Flows," AIAA Journal, Vol. 24, No. 12, pp. 1900-1917.

Lam, C. K. G. and Bremhorst, K. A. (1981), "Modified Form of k- ϵ Model for Predicting Wall Turbulence," ASME, Journal of Fluids Engineering, Vol. 103, pp. 456-460.

Landahl, M. T. and Mollo-Christensen, E. (1992), Turbulence and Random Processes in Fluid Mechanics, Second Ed., Cambridge University Press, New York.

Laufer, J. (1950), "Some Recent Measurements in a Two-Dimensional Turbulent Channel," *Journal of the Aeronautical Sciences*, Vol. 17, pp. 277-287.

Laufer, J. (1951), "Investigation of Turbulent Flow in a Two Dimensional Channel," NACA 1053.

Laufer, J. (1952), "The Structure of Turbulence in Fully Developed Pipe Flow," NACA 1174.

Launder, B. E. and Spalding, D. B. (1972), Mathematical Models of Turbulence, Academic Press, London.

Launder, B. E. and Sharma, B. I. (1974), "Application of the Energy Dissipation Model of Turbulence to the Calculation of Flow Near a Spinning Disc," Letters in Heat and Mass Transfer, Vol. 1, No. 2, pp. 131-138.

Launder, B. E., Reece, G. J. and Rodi, W. (1975), "Progress in the Development of a Reynolds-Stress Turbulence Closure," *Journal of Fluid Mechanics*, Vol. 68, Pt. 3, pp. 537-566.

Launder, B. E., Priddin, C. H. and Sharma, B. I. (1977), "The Calculation of Turbulent Boundary Layers on Spinning and Curved Surfaces," *ASME*, Journal of Fluids Engineering, Vol. 99, p. 231.

Launder, B. E. and Morse, A. (1979), "Numerical Prediction of Axisymmetric Free Shear Flows with a Second-Order Reynolds Stress Closure," *Turbulent Shear Flows I*, edited by F. Durst, B. E. Launder, F. W. Schmidt and J. Whitelaw, Springer-Verlag, Berlin.

Launder, B. E. (Ed.) (1992), Fifth Biennial Colloquium on Computational Fluid Dynamics, Manchester Institute of Science and Technology, England.

Lax, P. D. and Wendroff, B. (1960), "Systems of Conservation Laws," Communications on Pure and Applied Mathematics, Vol. 13, pp. 217-237.

Leonard, A. (1974), "Energy Cascade in Large-Eddy Simulations of Turbulent Fluid Flows," Advances in Geophysics, Vol. 18A, pp. 237-248.

Liepmann, H. W. and Laufer, J. (1947), "Investigations of Free Turbulent Mixing," NACA TN 1257. Lilly, D. K. (1965), "On the Computational Stability of Numerical Solutions of Time-Dependent Non-Linear Geophysical Fluid Dynamics Problems," *Monthly Weather Review*, U. S. Weather Bureau, Vol. 93, No. 1, pp. 11-26.

Lilly, D. K. (1966), "On the Application of the Eddy Viscosity Concept in the Inertial Subrange of Turbulence," NCAR Manuscript 123.

Lumley, J. L. (1970), "Toward a Turbulent Constitutive Equation," Journal of Fluid Mechanics, Vol. 41, pp. 413-434.

Lumley, J. L. (1972), "A Model for Computation of Stratified Turbulent Flows," Int. Symposium on Stratified Flow, Novisibirsk.

Lumley, J. L. (1978), "Computational Modeling of Turbulent Flows," Adv. Appl. Mech., Vol. 18, pp. 123-176.

MacCormack, R. W. (1969), "The Effect of Viscosity in Hypervelocity Impact Cratering," AIAA Paper 69-354, Cincinnati, OH.

MacCormack, R. W. (1985), "Current Status of Numerical Solutions of the Navier-Stokes Equations," AIAA Paper 85-32, Reno, NV.

Maise, G. and McDonald, H. (1967), "Mixing Length and Kinematic Eddy Viscosity in a Compressible Boundary Layer," AIAA Paper 67-199, New York, NY.

Mansour, N. N., Kim, J. and Moin, P. (1988), "Reynolds Stress and Dissipation Rate Budgets in Turbulent Channel Flow," *Journal of Fluid Mechanics*, Vol. 194, pp. 15-44.

Marshall, T. A. and Dolling, D. S. (1992), "Computation of Turbulent, Separated, Unswept Compression Ramp Interactions," *AIAA Journal*, Vol. 30, No. 8, pp. 2056-2065.

Mellor, G. L. and Herring, H. J. (1973), "A Survey of Mean Turbulent Field Closure Models," AIAA Journal, Vol. 11, No. 5, pp. 590-599.

Menter, F. R. (1992a), "Influence of Freestream Values on $k-\omega$ Turbulence Model Predictions," AIAA Journal, Vol. 30, No. 6, pp. 1657-1659.

Menter, F. R. (1992b), "Performance of Popular Turbulence Models for Attached and Separated Adverse Pressure Gradient Flows," *AIAA Journal*, Vol. 30, No. 8, pp. 2066-2072.

Menter, F. R. (1992c), "Improved Two-Equation k- ω Turbulence Models for Aerodynamic Flows," NASA TM-103975.

Meroney, R. N. and Bradshaw, P. (1975), "Turbulent Boundary-Layer Growth Over a Longitudinally Curved Surface," AIAA Journal, Vol. 13, No. 11, pp. 1448-1453.

Minkowycz, W. J., Sparrow, E. M., Schneider, G. E. and Pletcher, R. H. (1988), Handbook of Numerical Heat Transfer, Wiley, New York.

Morkovin, M. V. (1962), "Effects of Compressibility on Turbulent Flow," *The Mechanics of Turbulence*, A. Favre, Ed., Gordon and Breach. p. 367.

BIBLIOGRAPHY

Morris, P. J. (1984), "Modeling the Pressure Redistribution Terms," *Physics of Fluids*, Vol. 27, No. 7, pp. 1620-1623.

Moser, R. D. and Moin, P. (1984), "Direct Numerical Simulation of Curved Turbulent Channel Flow," NASA TM-85974.

Myong, H. K. and Kasagi, N. (1990), "A New Approach to the Improvement of k- ϵ Turbulence Model for Wall-Bounded Shear Flows," *JSME International Journal*, Vol. 33, pp. 63-72.

Narayanswami, N., Horstman, C. C. and Knight, D. D. (1993), "Computation of Crossing Shock/Turbulent Boundary Layer Interaction at Mach 8.3," *AIAA Journal*, Vol. 31, No. 8, pp. 1369-1376.

Nee, V. W. and Kovasznay, L. S. G. (1968), "The Calculation of the Incompressible Turbulent Boundary Layer by a Simple Theory," *Physics of Fluids*, Vol. 12, p. 473.

Ng, K. H. and Spalding, D. B. (1972), "Some Applications of a Model of Turbulence to Boundary Layers Near Walls," *Physics of Fluids*, Vol. 15, No. 1, pp. 20-30.

Oh, Y. H. (1974), "Analysis of Two-Dimensional Free Turbulent Mixing," AIAA Paper 74-594, Palo Alto, CA.

Orszag, S. A. (1972), "Comparison of Pseudo-Spectral and Spectral Approximation," Stud. Appl. Math., Vol. 51, pp. 253-259.

Papamoschou, D. and Roshko, A. (1988), "The Compressible Turbulent Shear Layer - An Experimental Study," *Journal of Fluid Mechanics*, Vol. 197, p. 453.

Patel, V. C., Rodi, W. and Scheuerer, G. (1985), "Turbulence Models for Near-Wall and Low Reynolds Number Flows: A Review," *AIAA Journal*, Vol. 23, No. 9, pp. 1308-1319.

Patterson, G. S. and Orszag, S. A. (1971), "Spectral Calculations of Isotropic Turbulence: Efficient Removal of Aliasing Interactions," *Physics* of Fluids, Vol. 14, pp. 2538-2541.

Peaceman, D. W. and Rachford, H. H., Jr. (1955), "The Numerical Solution of Parabolic and Elliptic Differential Equations," J. Soc. Indust. Applied Mathematics, Vol. 3, No. 1, pp. 28-41.

Peyret, R. and Taylor, T. D. (1983), Computational Methods for Fluid Flow, Springer-Verlag, New York.

Pope, S. B. (1978), "An Explanation of the Turbulent Round-Jet/Plane-Jet Anomaly," AIAA Journal, Vol. 16, No. 3, pp. 279-281.

Prandtl, L. (1925), "Über die ausgebildete Turbulenz," ZAMM, Vol. 5, pp. 136-139.

Prandtl, L. (1945), "Über ein neues Formelsystem für die ausgebildete Turbulenz," Nacr. Akad. Wiss. Göttingen, Math-Phys. Kl. 1945, pp. 6-19. Press, W. H., Flannery, B. P., Teukolsky, S. A. and Vetterling, W. T. (1987), Numerical Recipes: The Art of Scientific Computing, Cambridge University Press, Cambridge.

Price, J. M. and Harris, J. E. (1972), "Computer Program for Solving Compressible Nonsimilar-Boundary-Layer Equations for Laminar, Transitional or Turbulent Flows of a Perfect Gas," NASA TM X-2458.

Rastogi, A. K. and Rodi, W. (1978), "Calculation of General Three-Dimensional Turbulent Boundary Layers," *AIAA Journal*, Vol. 16, No. 2, pp. 151-159.

Reda, D. C., Ketter, F. C. Jr. and Fan, C. (1974), "Compressible Turbulent Skin Friction on Rough and Rough/Wavy Walls in Adiabatic Flow," AIAA Paper 74-574, Palo Alto, CA.

Reynolds, O. (1874), "On the Extent and Action of the Heating Surface for Steam Boilers," *Proc. Manchester Lit. Phil. Soc.*, Vol. 14, pp. 7-12.

Reynolds, O. (1895), "On the Dynamical Theory of Incompressible Viscous Fluids and the Determination of the Criterion," *Philosophical Transactions of the Royal Society of London, Series A*, Vol. 186, p. 123.

Reynolds, W. C. (1970), "Computation of Turbulent Flows-State of the Art," Report No. MD-27, Dept. Mech. Eng., Stanford University, CA.

Reynolds, W. C. (1976), "Computation of Turbulent Flows," Annual Review of Fluid Mechanics, Vol. 8, pp. 183-208.

Reynolds, W. C. (1987), "Fundamentals of Turbulence for Turbulence Modeling and Simulation," In Lecture Notes for von Kármán Institute, AGARD Lecture Series No. 86, pp. 1-66, New York: NATO.

Roache, P. J. (1976), Computational Fluid Dynamics, Hermosa Publishers, Albuquerque, NM.

Roache, P. J. (1990), "Need for Control of Numerical Accuracy," Journal of Spacecraft and Rockets, Vol. 27, No. 2, pp. 98-102.

Roache, P. J. and Salari, K. (1990), "Weakly Compressible Navier-Stokes Solutions with an Implicit Approximate Factorization Code," AIAA Paper 90-235, Reno, NV.

Rodi, W. and Spalding, D. B. (1970), "A Two-Parameter Model of Turbulence and its Application to Free Jets," *Wärme und Stoffübertragung*, Vol. 3, p. 85.

Rodi, W. (1976), "A New Algebraic Relation for Calculating Reynolds Stresses," ZAMM, Vol. 56, p. 219.

Rodi, W. (1981), "Progress in Turbulence Modeling for Incompressible Flows," AIAA Paper 81-45, St. Louis, MO.

Rodi, W. and Scheuerer, G. (1986), "Scrutinizing the k- ϵ Turbulence Model Under Adverse Pressure Gradient Conditions," *ASME*, Journal of Fluids Engineering, Vol. 108, pp. 174-179. Rodi, W. (1991), "Experience with Two-Layer Models Combining the $k-\epsilon$ Model with a One-Equation Model Near the Wall," AIAA Paper 91-216, Reno, NV.

Roe, P. L. (1981), "Approximate Riemann Solvers, Parameter Vectors, and Difference Schemes," *Journal of Computational Physics*, Vol. 43, pp. 357-372.

Rogallo, R. S. and Moin, P. (1984), "Numerical Simulation of Turbulent Flows," Annual Review of Fluid Mechanics, Vol. 16, pp. 99-137.

Rotta, J. C. (1951), "Statistische Theorie nichthomogener Turbulenz," Zeitschrift fur Physik, Vol. 129, pp. 547-572.

Rotta, J. C. (1962), "Turbulent Boundary Layers in Incompressible Flow," Progress in Aerospace Sciences, Vol. 2, p. 1.

Rotta, J. C. (1968), "Über eine Methode zur Berechnung turbulenter Scherströmungen," Aerodynamische Versuchanstalt Göttingen, Rep. 69 A 14.

Rubel, A. and Melnik, R. E. (1984), "Jet, Wake and Wall Jet Solutions Using a k- ϵ Turbulence Model," AIAA Paper 84-1523, Snowmass, CO.

Rubel, A. (1985), "On the Vortex Stretching Modification of the k- ϵ Turbulence Model: Radial Jets," AIAA Journal, Vol. 23, No. 7, pp. 1129-1130.

Rubesin, M. W. (1989), "Turbulence Modeling for Aerodynamic Flows," AIAA Paper 89-606, Reno, NV.

Rubesin, M. W. (1990), "Extra Compressibility Terms for Favre Averaged Two-Equation Models of Inhomogeneous Turbulent Flows," NASA CR-177556.

Saffman, P. G. (1970), "A Model for Inhomogeneous Turbulent Flow," Proc. Roy. Soc., Lond., Vol. A317, pp. 417-433.

Saffman, P. G. and Wilcox, D. C. (1974), "Turbulence-Model Predictions for Turbulent Boundary Layers," *AIAA Journal*, Vol. 12, No. 4, pp. 541-546.

Saffman, P. G. (1976), "Development of a Complete Model for the Calculation of Turbulent Shear Flows," April 1976 Symposium on Turbulence and Dynamical Systems, Duke Univ., Durham, NC.

Sandham, N. D. and Kleiser, L. (1992), "The Late Stages of Transition to Turbulence in Channel Flow," *Journal of Fluid Mechanics*, Vol. 245, p. 319.

Sarkar, S., Erlebacher, G., Hussaini, M. Y. and Kreiss, H. O. (1989), "The Analysis and Modeling of Dilatational Terms in Compressible Turbulence," ICASE Report 89-79, Univ. Space Research Assoc., Hampton, VA. Sarkar, S. and Speziale, C. G. (1990), "A Simple Nonlinear Model for the Return to Isotropy in Turbulence," *Physics of Fluids A*, Vol. 2, pp. 84-93.

Sarkar, S., Erlebacher, G. and Hussaini, M. Y. (1991), "Compressible and Homogeneous Shear — Simulation and Modeling," 8^{th} Symposium on Turbulent Shear Flows, Munich, Paper No./ 21-2.

Schlichting, H. (1979), Boundary Layer Theory, Seventh Ed., McGraw-Hill, New York.

Schubauer, G. B. and Skramstad, H. K. (1948), "Laminar-Boundary-Layer Oscillations and Transition on a Flat Plate," NACA 909.

Schumann, U. (1975), "Subgrid Scale Model for Finite Difference Simulations of Turbulent Flows in Plane Channels and Annuli," *Journal of Computational Physics*, Vol. 18, pp. 376-404.

Settles, G. S., Vas, I. E. and Bogdonoff, S. M. (1976), "Details of a Shock Separated Turbulent Boundary Layer at a Compression Corner," *AIAA Journal*, Vol. 14, No. 12, pp. 1709-1715.

Shaanan, S., Ferziger, J. H. and Reynolds, W. C. (1975), "Numerical Simulation of Turbulence in the Presence of Shear," Report No. TF-6, Dept. Mech. Eng., Stanford University, CA.

Shang, J. S. and Hankey, W. L. (1975), "Numerical Solution of the Navier Stokes Equations for Compression Ramp," AIAA Paper 75-4, Pasadena, CA.

Shih, T. H. and Lumley, J. L. (1985), "Modeling of Pressure Correlation Terms in Reynolds Stress and Scalar Flux Equations," Report No. FDA-85-3, Cornell University, Ithaca, NY.

Shih, T. H., Mansour, N. and Chen, J. Y. (1987), "Reynolds Stress Models of Homogeneous Turbulence," *Studying Turbulence Using Numeri*cal Simulation Databases, NASA Ames/Stanford CTR-S87, p. 191.

Shih, T. H. and Hsu, A. T. (1991), "An Improved k- ϵ Model for Near-Wall Turbulence," AIAA Paper 91-611, Reno, NV.

Simpson, R. L. and Wallace, D. B. (1975), "Laminarescent Turbulent Boundary Layers: Experiments on Sink Flows," Project SQUID, Tech. Rept. SMU-1-PU.

Smagorinsky, J. (1963), "General Circulation Experiments with the Primitive Equations. I. The Basic Experiment," *Mon. Weather Rev.*, Vol. 91, pp. 99-164.

Smith, A. M. O. and Cebeci, T. (1967), "Numerical Solution of the Turbulent Boundary-Layer Equations," Douglas Aircraft Division Report DAC 33735.

Smith, B. R. (1990), "The $k - k\ell$ Turbulence and Wall Layer Model for Compressible Flows," AIAA Paper 90-1483, Seattle, WA.

So, R. M. C. and Mellor, G. L. (1972), "An Experimental Investigation of Turbulent Boundary Layers Along Curved Surfaces," NASA CR-1940.

So, R. M. C. and Mellor, G. L. (1978), "Turbulent Boundary Layers with Large Streamline Curvature Effects," ZAMP, Vol. 29, pp. 54-74.

So, R. M. C., Lai, Y. G., Hwang, B. C. and Yoo, G. J. (1988), "Low Reynolds Number Modeling of Flows Over a Backward Facing Step," ZAMP, Vol. 39, pp. 13-27.

So, R. M. C., Lai, Y. G., Zhang, H. S. and Hwang, B. C. (1991), "Second-Order Near-Wall Turbulence Closures: A Review," AIAA Journal, Vol. 29, No. 11, pp. 1819-1835.

Spalart, P. R. (1986), "Numerical Study of Sink-Flow Boundary Layers," Journal of Fluid Mechanics, Vol. 172, pp. 307-328.

Spalart, P. R. (1988), "Direct Simulation of a Turbulent Boundary Layer up to $Re_{\theta} = 1400$," Journal of Fluid Mechanics, Vol. 187, pp. 61-98.

Spalart, P. R. (1989), "Direct Numerical Study of Leading-Edge Contamination," AGARD CP 438.

Spalart, P. R. and Allmaras, S. R. (1992), "A One-Equation Turbulence Model for Aerodynamic Flows," AIAA Paper 92-439, Reno, NV.

Speziale, C. G. (1985), "Modeling the Pressure-Gradient-Velocity Correlation of Turbulence," *Physics of Fluids*, Vol. 28, pp. 69-71.

Speziale, C. G. (1987a), "Second-Order Closure Models for Rotating Turbulent Flows," Q. Appl. Math., Vol. 45, pp. 721-733.

Speziale, C. G. (1987b), "On Nonlinear $k-\ell$ and $k-\epsilon$ Models of Turbulence," Journal of Fluid Mechanics, Vol. 178, pp. 459-475.

Speziale, C. G., Abid, R. and Anderson, E. C. (1990), "A Critical Evaluation of Two-Equation Models for Near Wall Turbulence," AIAA Paper 90-1481, Seattle, WA.

Speziale, C. G. (1991), "Analytical Methods for the Development of Reynolds-Stress Closures in Turbulence," Annual Review of Fluid Mechanics, Vol. 23, pp. 107-157.

Speziale, C. G. Sarkar, S. and Gatski, T. B. (1991), "Modeling the Pressure-Strain Correlation of Turbulence," *Journal of Fluid Mechanics*, Vol. 227, pp. 245-272.

Steger, J. and Warming, R. F. (1979), "Flux Vector Splitting of the Inviscid Gasdynamics Equations with Application to Finite Difference Methods," NASA TM-78605.

Stewartson, K. (1981), "Some Recent Studies in Triple-Deck Theory," in *Numerical and Physical Aspects of Aerodynamic Flows*, T. Cebeci, ed., Springer-Verlag, p. 142.

Tanaka, T. and Tanaka, E. (1976), "Experimental Study of a Radial Turbulent Jet," *Bulletin of the JSME*, Vol. 19, pp. 792-799.

Tavoularis, S. and Corrsin, S. (1981), "Experiments in Nearly Homogeneous Turbulent Shear Flow with Uniform Mean Temperature Gradient. Part I," *Journal of Fluid Mechanics*, Vol. 104, pp. 311-347.

Tavoularis, S. and Karnik, U. (1989), "Further Experiments on the Evolution of Turbulent Stresses and Scales in Uniformly Sheared Turbulence," *Journal of Fluid Mechanics*, Vol. 204, p. 457.

Taylor, G. I. (1935), "Statistical Theory of Turbulence," Proc. Roy. Soc., Lond., Vol. A151, p. 421.

Tennekes, H. and Lumley, J. L. (1983), A First Course in Turbulence, MIT Press, Cambridge, MA.

Thangam, S. and Speziale, C. G. (1992), "Turbulent Flow Past a Backward Facing Step: A Critical Evaluation of Two-Equation Models," *AIAA Journal*, Vol. 30, No. 5, pp. 1314-1320.

Thomann, H. (1968), "Effect of Streamwise Wall Curvature on Heat Transfer in a Turbulent Boundary Layer," *Journal of Fluid Mechanics*, Vol. 33, pp. 283-292.

Townsend, A. A. (1956), "The Uniform Distortion of Homogeneous Turbulence," Q. J. Mech. Appl. Math., Vol. 7, p. 104.

Townsend, A. A. (1976), The Structure of Turbulent Shear Flow, Second Ed., Cambridge University Press, Cambridge.

Tucker, H. J. and Reynolds, A. J. (1968), "The Distortion of Turbulence by Irrotational Plane Strain," *Journal of Fluid Mechanics*, Vol. 32, Pt. 4, pp. 657-673.

Uberoi, M. S. (1956), "Effect of Wind Tunnel Contraction on Free Stream Turbulence," Journal of the Aeronautical Sciences, p. 754.

Van Driest, E. R. (1951), "Turbulent Boundary Layer in Compressible Fluids," Journal of the Aeronautical Sciences, Vol. 18, pp. 145-160, 216.

Van Driest, E. R. (1956), "On Turbulent Flow Near a Wall," Journal of the Aeronautical Sciences, Vol. 23, p. 1007.

Van Dyke, M. D. (1964), Perturbation Methods in Fluid Mechanics, Academic Press.

Van Leer, B. (1982), "Flux-Vector Splitting for the Euler Equations," ICASE Report 82-30, Univ. Space Research Assoc., Hampton, VA.

Viegas, J. R. and Horstman, C. C. (1979), "Comparison of Multiequation Turbulence Models for Several Shock Boundary-Layer Interaction Flows," *AIAA Journal*, Vol. 17, No. 8, pp. 811-820.

Viegas, J. R., Rubesin, M. W. and Horstman, C. C. (1985), "On the Use of Wall Functions as Boundary Conditions for Two-Dimensional Separated Compressible Flows," AIAA Paper 85-180, Reno, NV.

Vollmers, H. and Rotta, J. C. (1977), "Similar Solutions of the Mear. Velocity, Turbulent Energy and Length Scale Equation," AIAA Journa. Vol. 15, No. 5, pp. 714-720.

BIBLIOGRAPHY

von Kármán, T. (1930), "Mechanische Ähnlichkeit und Turbulenz," Proc. Int. Congr. Appl. Mech., 3rd, Stockholm, Part 1, pp. 85-105.

von Kármán, T. (1934), "Some Aspects of the Turbulence Problem," Proc. Int. Congr. Appl. Mech., 4th, Cambridge, p. 54.

Weinstock, J. (1981), "Theory of the Pressure-Strain Rate Correlation for Reynolds Stress Turbulence Closures," *Journal of Fluid Mechanics*, Vol. 105, pp. 369-396.

Wigeland, R. A. and Nagib, H. M. (1978), "Grid-Generated Turbulence With and Without Rotation About the Streamwise Direction," Fluids and Heat Transfer Report R78-1, Illinois Institute of Technology, Chicago, IL.

Wilcox, D. C. and Alber, I. E. (1972), "A Turbulence Model for High Speed Flows," *Proc. of the 1972 Heat Trans. & Fluid Mech. Inst.*, Stanford Univ. Press, pp. 231-252.

Wilcox, D. C. (1974), "Numerical Study of Separated Turbulent Flows," AIAA Paper 74-584, Palo Alto, CA.

Wilcox, D. C. and Chambers, T. L. (1975), "Further Refinement of the Turbulence-Model Transition-Prediction Technique," DCW Industries Report DCW-R-03-02, La Cañada, CA.

Wilcox, D. C. and Traci, R. M. (1976), "A Complete Model of Turbulence," AIAA Paper 76-351, San Diego, CA.

Wilcox, D. C. and Chambers, T. L. (1977), "Streamline Curvature Effects on Turbulent Boundary Layers," *AIAA Journal*, Vol. 15, No. 4, pp. 574-580.

Wilcox, D. C. (1977), "A Model for Transitional Flows," AIAA Paper 77-126, Los Angeles, CA.

Wilcox, D. C. and Rubesin, M. W. (1980), "Progress in Turbulence Modeling for Complex Flow Fields Including Effects of Compressibility," NASA TP-1517.

Wilcox, D. C. (1981a), "Alternative to the e⁹ Procedure for Predicting Boundary-Layer Transition," AIAA Journal, Vol. 19, No. 1, pp. 56-64.

Wilcox, D. C. (1981b), "Algorithm for Rapid Integration of Turbulence Model Equations on Parabolic Regions," *AIAA Journal*, Vol. 19, No. 2, pp. 248-251.

Wilcox, D. C. (1988a), "Reassessment of the Scale Determining Equation for Advanced Turbulence Models," *AIAA Journal*, Vol. 26, No. 11, pp. 1299-1310.

Wilcox, D. C. (1988b), "Multiscale Model for Turbulent Flows," AIAA Journal, Vol. 26, No. 11, pp. 1311-1320.

Wilcox, D. C. (1989), "Wall Matching, A Rational Alternative to Wall Functions," AIAA Paper 89-611, Reno, NV.

Wilcox, D. C. (1990), "Supersonic Compression-Corner Applications of a Multiscale Model for Turbulent Flows," *AIAA Journal*, Vol. 28, No. 7, pp. 1194-1198.

Wilcox, D. C. (1991), "Progress in Hypersonic Turbulence Modeling," AIAA Paper 91-1785, Honolulu, HI.

Wilcox, D. C. (1992a), "The Remarkable Ability of Turbulence Model Equations to Describe Transition," Fifth Symposium on Numerical and Physical Aspects of Aerodynamic Flows, 13-15 January 1992, California State University, Long Beach, CA.

Wilcox, D. C. (1992b), "Dilatation-Dissipation Corrections for Advanced Turbulence Models," *AIAA Journal*, Vol. 30, No. 11, pp. 2639-2646.

Witze, P. O. and Dwyer, H. A. (1976), "The Turbulent Radial Jet," Journal of Fluid Mechanics, Vol. 75, pp. 401-417.

Wolfshtein, M. (1967), "Convection Processes in Turbulent Impinging Jets," Imperial College, Heat Transfer Section Report SF/R/2.

Wygnanski, I. and Fiedler, H. E. (1968), "Some Measurements in the Self-Preserving Jet," Boeing Scientific Research Labs, Flight Science Laboratory, Document D1-82-0712.

Yang, K.-S. and Ferziger, J. H. (1993), "Large-Eddy Simulation of Turbulent Flow with a Surface-Mounted Two-Dimensional Obstacle Using a Dynamic Subgrid-Scale Model," AIAA Paper 93-542, Reno, NV.

Yang, Z. and Shih, T.-H. (1993), "A New Time Scale Based k- ϵ Model for Near Wall Turbulence," AIAA Journal, Vol. 31, No. 7, pp. 1191-1198.

Zeierman, S. and Wolfshtein, M. (1986), "Turbulent Time Scale for Turbulent-Flow Calculations," *AIAA Journal*, Vol. 24, No. 10, pp. 1606-1610.

Zeman, O. (1990), "Dilatational Dissipation: The Concept and Application in Modeling Compressible Mixing Layers," *Physics of Fluids A*, Vol. 2, No. 2, pp. 178-188.

Zeman, O. (1991), "The Role of Pressure-Dilatation Correlation in Rapidly Compressed Turbulence and in Boundary Layers," NASA Ames, Stanford Center for Turbulence Research Annual Research Briefs, p. 105.

Zhang, H. S., So, R. M. C., Speziale, C. G. and Lai, Y. G. (1992), "A Near-Wall Two-Equation Model for Compressible Turbulent Flows," AIAA Paper 92-442, Reno, NV.