BIBLIOGRAPHY

Agarwal, Y., Hadeishi, T., and Robben, F., 1976, "Measurement of NO₂ concentration in combustion using fluorescence excited by an argon-ion laser," AIAA 14th Aerospace Sciences Mtg, Paper AIAA-76-136.

Allen, M.G., McManus, K.R., and Sonnenfroh, D.M., 1994, "PLIF imaging measurements in high-pressure spray flame combustion," 30th AIAA/ASME/SAE/ASEE Joint Propulsion Conf, Paper AIAA 94-2913.

Ballal, D.R. and Chen, T.H., 1987, "Investigations of a CO₂ round jet using an integrated Raman-LDA system," AIAA 25th Aerospace Sciences Mtg, Paper AIAA-87-0377.

Becker, H.A., Hottel, H.C., and Williams, G.C., 1967, "On the light-scatter technique for the study of turbulence and mixing," JFM, vol 30, pp 259-284.

Becker, H.A., Hottel, H.C., and Williams, G.C., 1967, "The nozzle-fluid concentration field of the round, turbulent, free jet," JFM, vol 30, pp 285-303.

Chen, R.H. and Driscoll, J.F., 1988, "The role of the recirculation vortex in improving fuel-air mixing within swirling flames," 22nd Symposium (International) on Combustion, pp 531-540.

Claypole, T.C. and Syred, N., 1981, "The effect of swirl burner aerodynamics on NO_x formation," 18th Symposium (International) on Combustion, pp 81-89.

Clemens, N.T., Mungal, M.G., Berger, T.E., and Vandsburger, U., 1990, "Visualization of the structure of the turbulent mixing layer under compressible conditions," 28th Aerospace Sciences Mtg, Paper AIAA-90-0500.

Cohen, J. and Wygnanski, I., 1987, "The evolution of instabilities in the axisymmetric jet," JFM, vol 176, pp 191-235.

Corke, T.C. and Kusek, S.M., 1993, "Resonance.in axisymmetric jets with controlled helicalmode input," JFM, vol 249, pp 307-336.

Dahm, W.J.A. and Dimotakis, P.E., 1987, "Measurement of entrainment and mixing in turbulent jets," AIAA J, vol 25, pp 1216-1223.

Dimotakis, P. E., 1989, "Turbulent free shear layer mixing," 27th Aerospace Sciences Mtg, Paper AIAA-89-0262.

Eckbreth, A.C., <u>Laser Diagnostics for Combustion Temperature and Species</u>, Abacus Press, 1988.

Feikema, D., Chen, R.H., and Driscoll, J.F., 1990, "Enhancement of flame blowout limits by the use of swirl," Comb and Flame, vol 80, pp 183-195.

Goldstein, J.E. and Smits, A.J., 1993, "Flow visualization of the three-dimensional, timeevolving structure of a turbulent boundary layer," Phys Fluids, vol 6, pp 577-587.

Grinstein, F.F, Gutmark, E., Parr, T., and Hanson-Parr, D., 1993, "Computational and experimental study of controlled mixing in a circular jet," 15th AIAA Aeroacoustics Conf, Paper AIAA-93-4364.

Grinstein, F.F, Gutmark, E., and Parr, T., 1995, "Near field dynamics of subsonic free square jets. A computational and experimental study," Phys Fluids, vol 7, pp 1483-1497.

Gulati, A. and Warren, R.E., 1993, "NO₂-based laser-induced fluorescence (LIF) technique to measure cold-flow mixing," AIAA 30th Aerospace Sciences Mtg.

Gullet, B.K., Groff, P.W., and Stefanski, L.A., 1993, "Mixing quantification by visual imaging analysis," Exp in Fluids, vol 15, pp 443-451.

Gupta, A.K., Ramavajjala, M.S., Chomiak, J., and Marchionna, N., 1991, "Burner geometry effects on combustion and NOx emission characteristics using a variable geometry swirl combustor," J. Prop and Power, vol 7, no 4, pp 473-480.

Gutmark, E., Parr, T.P., Hanson-Parr, D.M., and Schadow, K.C., 1989, "On the role of large and small-scale structures in combustion control," Spring Mtg of the Western States Sect of the Comb Inst, Paper No. 89-19.

Gutmark, E., Schadow, K.C., Parr, D.M., Harris, C.K., and Wilson, K.J., 1985, "The mean and turbulent structure of noncircular jets," AIAA Shear Flow Control Conference, AIAA Paper 85-0546.

Gutmark, E., Schadow, K.C., and Wilson, K.J., 1991, "Subsonic and supersonic combustsion using noncircular injectors," J. Prop and Power, vol 7, no 2, pp 240-249.

Hanson, R.K., 1986, "Combustion Diagnostics: Planar Imaging Techniques," 21st Symposium (International) on Combustion, pp 1677-1691.

Hanson, R.K., Seitzman, J.M., and Paul, P.H., 1990, "Planar Laser-Fluorescence Imaging of Combustion Gases," Applied Physics B, vol 50, pp 441-454.

Hartley, D.L., "Laser Scattering Diagnostics for Temperature and Concentration Measurements," in <u>Experimental Methods in Gas Phase Combustion Systems</u>, 1976, Zinn, B.T. ed., pp 467-477.

Hillemanns, R., Lenze, B., and Leuckel, W., 1986, "Flame stabilization and turbulent exchange in strongly swirling natural gas flames," 21st Symposium (International) on Combustion, pp 1445-1453.

Hiller, B. and Hanson, R.K., 1990 "Properties of the iodine molecule relevant to laser-induced fluorescence experiments in gas flows," Exp in Fluids, vol 10, pp 1-11.

Ho, C.M. and Gutmark, E., 1987, "Vortex induction and mass entrainment in a small-aspect-ratio elliptic jet," JFM, vol 179, pp 383-405.

Hussain, F. and Husain, H., 1989, "Elliptic jets, Part 1. Characteristics of unexcited and excited jets," JFM, vol 208, pp 257-320.

Karasso, P.S. and Mungal, M.G., 1992, "LIF measurements of mixing in turbulent shear layers," 6th Intl Symposium on Application of Laser Techniques to Fluid Mechanics.

Lapp, M., "Raman-Scattering Measurments of Combustion Properties," in <u>Laser Probes for</u> <u>Combustion Chemistry</u>, 1980, Crosley, D.R. ed., pp 207-230.

Lozano, A., 1992, "Laser-excited luminescent tracers for planar concentration measurements in gaseous jets," HTGL Report No. T-284.

Lozano, A., Yip, B., and Hanson, R.K., 1992, "Acetone: a tracer for concentration measurements in gaseous flows by planar laser-induced fluorescence," Exp in Fluids, pp 455-461.

McManus, K.R., Legner, H.H., and Davis, S.J., 1994, "Pulsed vortex generator jets for active control of flow separation," 25th AIAA Fluid Dyn Conf, Paper AIAA 94-2218.

Miles, R.B., 1989, "Density Cross Sections and Velocity Profiles in High-Speed Air by UV Rayleigh Scattering and by Raman Excitation + Laser Induced Electronic Fluorescence (RELIEF)," ICALEO '89 Proceedings, vol 68, pp 162-166. Muss, J.A., Dibble, R.W., and Talbot, L., 1994, "Measurement of mixture fraction and scalar dissipation in non-premixed reacting flows using Rayleigh scattering," Spring Mtg of the Western States Sect of the Comb Inst, Paper No. 94-047.

Paul, P.H., Lee, M.P., and Hanson, R.K., 1989, "Molecular velocity imaging of supersonic flows using pulsed planar laser-induced fluorescence of NO," Optics Letters, vol 14, no 9, pp 417-419.

Penney, C.M., Warshaw, S., Lapp, M., and Drake, M., 1980, "Observations of Fast Turbulent Mixing in Gases Using a Continuous-Wave Laser," in <u>Laser Probes for Combustion</u> <u>Chemistry</u>, 1980, Crosley, D.R. ed., pp 247-253.

Pitts, W.M., and Kashiwagi, T., 1984, "The application of laser-induced Rayleigh light scattering to the study of turbulent mixing," JFM, vol 141, pp 391-429.

Quinn, W.R. and Militzer, J., 1988, "Experimental and numerical study of a turbulent free square jet," Phys Fluids, vol 31, pp 1017-1025.

Rawe, R. and Kremer, H., 1981, "Stability limits of natural gas diffusion flames with swirl," 18th Symposium (International) on Combustion, pp 667-677.

Rosenwieg, R.E., Hottel, H.C., and Williams, G.C., 1961, "Smoke-scattered light measurement of turbulent concentration fluctuations," Chem Eng Sci, vol 15, pp 111-129.

Schefer, R.W., and Dibble, R.W., 1986, "Rayleigh scattering measurements of mixture fraction in a turbulent nonreacting propane jet," AIAA 24th Aerospace Sciences Mtg, Paper AIAA-86-0278.

Seitzman, J.M., Miller, M.F., Island, T.C., and Hanson, R.K., 1994, "Double-pulsed imaging using simultaneous acetone/OH PLIF for studying the evolution of high-speed, reacting mixing layers, 25th Symposium (International) on Combustion.

Sforza, P.M., Steiger, M.H., and Trentacoste, N., 1966, "Studies on three-dimensional viscous jets," AIAA J., vol 4, pp 800-806.

St. John, D. and Samuelsen, G.S., 1994, "Active, optimal control of a model, industrial natural gas-fired burner," Spring Mtg of the Western States Sect of the Comb Inst, Paper No 94-039.

Strange, P.J.R., 1983, "Spinning modes on axisymmetric jets," JFM, vol 134, pp 231-245.

Syred, N., and Beer, J.M., 1974, "Combustion in Swirling Flows: A Review," Combustion and Flame, vol 23, pp 143-201.

Tangirala, V. and Driscoll, J.F., 1988, "Temperature within non-premixed flames: effects of rapid mixing due to swirl," Combust Sci and Tech, vol 60, pp 143-162.

Tso, J. and Hussain, F., 1989 "Organized motions in a fully developed turbulent axisymmetric jet," JFM, vol 203.

van Cruyningen, I., Lozano, A., and Hanson, R.K., 1990, "Quantitative imaging of concentration by planar laser-induced fluorescence," Exp in Fluids, vol 10, pp 41-49.

Vandsburger, U. and Ding, C., 1995, "The spatial modulation of a forced triangular jet," Exp in Fluids, vol 18, pp 239-248.

Vandsburger, U., Seitzman, J.M., and Hanson, R.K., 1988 "Visualization methods for the study of unsteady non-premixed jet flame structure," Combust Sci and Tech, vol 59, vol 13, pp 369-376.

Wiltse, J.M. and Glezer, A., 1993, "Manipulation of free shear flows using piezoelectric actuators," JFM, vol 249, pp 261-285.

Yip, B., Lam, J.K., Winter, M., and Long, M.B., 1987, "Time-resolved three-dimensional concentration measurement in a gas jet," Science, vol 235, pp 1209-1211.

Yoda, M., 1992, "The instantaneous concentration field in the self-similar region of a high-Schmidt number round jet," Ph.D. Dissertation, Dept of Aeronautics and Astronautics, Stanford University.

Yu, M.H., and Monkewitz, P.A., 1990, The effect of nonuniform density n the absolute instability of two-dimensional inertial jets and wakes," Physics of Fluids A, vol 2, no 7, pp 1175-1181.

Yu, M.H., and Monkewitz, P.A., 1993, "Oscillations in the near field of a heated twodimensional jet," JFM, vol 255, pp 323-347.