

Regional Tropospheric Chemistry**1993**

Bertman, S. B., M. P. Buhr, and J. M. Roberts, Automated cryogenic trapping technique for capillary GC analysis of atmospheric trace compounds requiring no expendable cryogens: Application to the measurement of organic nitrates, *Anal. Chem.*, 98, 2944-2946, 1993.

Cantrell, C. A., R. E. Shetter, J. A. Lind, A. H. McDaniel, J. G. Calvert, D. D. Parrish, F. C. Fehsenfeld, and M. P. Buhr, An improved chemical amplifier technique for peroxy radical measurements, *J. Geophys. Res.*, 98, 2897-2909, 1993.

Cantrell, C. A., R. E. Shetter, J. G. Calvert, D. D. Parrish, F. C. Fehsenfeld, P. D. Goldan, W. Kuster, E. J. Williams, H. H. Westberg, G. Allwine, and R. Martin, Peroxy radicals as measured in ROSE and estimated from photostationary state deviations, *J. Geophys. Res.*, 98, 18355-18366, 1993.

Goldan, P. D., W. C. Kuster, F. C. Fehsenfeld, and S. A. Montzka, The observation of a C₅ alcohol emission in a North American pine forest, *Geophys. Res. Lett.*, 20, 1039-1042, 1993.

Lin, X., W. L. Chameides, C. S. Kiang, A. W. Stelson, and H. Berresheim, Reply (93JD02410), *J. Geophys. Res.*, 98, 20815-20816, 1993.

Lin, X., W. L. Chameides, C. S. Kiang, A. W. Stelson, and H. Berresheim, Reply (93JD01193), *J. Geophys. Res.*, 98, 10815-10817, 1993.

McKeen, S. A., and S. C. Liu, Hydrocarbon ratios and photochemical history of air masses, *Geophys. Res. Lett.*, 20, 2363-2366, 1993.

Mellouki, A., R. K. Talukdar, A. M. R. P. Bopegedera, and C. J. Howard, Study of the kinetics of the reactions of NO₃ with HO₂ and OH, *Int. J. Chem. Kinet.*, 25, 25-39, 1993.

Montzka, S. A., M. Trainer, P. D. Goldan, W. C. Kuster, and F. C. Fehsenfeld, Isoprene and its oxidation products, methyl vinyl ketone and methacrolein, in the rural troposphere, *J. Geophys. Res.*, 98, 1101-1111, 1993.

Parrish, D. D., and M. P. Buhr, Measurement challenges of nitrogen species in the atmosphere, in *Measurement Challenges in Atmospheric Chemistry*, L. Newman, ed., American Chemical Society, Washington, DC, Vol. 232, 243-273, 1993.

Parrish, D. D., M. P. Buhr, M. Trainer, R. B. Norton, J. P. Shimshock, F. C. Fehsenfeld, K. G. Anlauf, J. W. Bottenheim, Y. Z. Tang, H. A. Wiebe, J. M. Roberts, R. L. Tanner, L. Newman, V. C. Bowersox, K. J. Olszyna, E. M. Bailey, M. O. Rodgers, T. Wang, H. Berresheim, U. K. Roychowdhury, and K. L. Demerjian, The total reactive oxidized nitrogen levels and the partitioning between the individual species at six rural sites in eastern North America, *J. Geophys. Res.*, 98, 2927-2939, 1993.

Trainer, M., D. D. Parrish, M. P. Buhr, R. B. Norton, F. C. Fehsenfeld, K. G. Anlauf, J. W. Bottenheim, Y. Z. Tang, H. A. Wiebe, J. M. Roberts, R. L. Tanner, L. Newman, V. C. Bowersox, J. F. Meagher, K. J. Olszyna, M. O. Rodgers, T. Wang, H. Berresheim, K. L. Demerjian, and U. K. Roychowdhury, Correlation of ozone with NO_y in photochemically aged air, *J. Geophys. Res.*, 98, 2917-2925, 1993.

Williams, E. J., and E. A. Davidson, An intercomparison of two chamber methods for the determination of emission of nitric oxide from soil, *Atmos. Environ.*, 27A, 2107-2113, 1993.

PUBLICATIONS: REGIONAL CHEMISTRY

1994

Chin, M., D. J. Jacob, J. W. Munger, D. D. Parrish, and B. G. Doddridge, Relationship of ozone and carbon monoxide over North America, *J. Geophys. Res.*, 99, 14565-14573, 1994.

Eisele, F. L., G. H. Mount, F. C. Fehsenfeld, J. H. Harder, E. Marovich, D. D. Parrish, J. Roberts, M. Trainer, and D. Tanner, Intercomparison of tropospheric OH and ancillary trace gas measurements at Fritz Peak Observatory, Colorado, *J. Geophys. Res.*, 99, 18605-18626, 1994.

Liu, S. C., S. A. McKeen, and F. C. Fehsenfeld, Tropospheric ozone: Strategy for control of its precursors, in *The Chemistry of the Atmosphere: Its Impact on Global Change*, J. G. Calvert, ed., Blackwell Scientific Publications, Oxford, 275-284, 1994.

Talukdar, R. K., A. Mellouki, T. Gierczak, S. Barone, S.-Y. Chiang, and A. R. Ravishankara, Kinetics of the reactions of OH with alkanes, *Int. J. Chem. Kinet.*, 26, 973-990, 1994.

1995

Buhr, M., D. D. Parrish, J. Elliot, J. Holloway, J. Carpenter, P. D. Goldan, W. C. Kuster, M. Trainer, S. A. Montzka, S. A. McKeen, and F. C. Fehsenfeld, Evaluation of ozone precursor source types using principal component analysis of ambient air measurements in rural Alabama, *J. Geophys. Res.*, 100, 22853-22860, 1995.

Buhr, S. M., M. P. Buhr, F. C. Fehsenfeld, J. S. Holloway, U. Karst, R. B. Norton, D. D. Parrish, and R. E. Sievers, Development of semi-continuous method for the measurement of nitric acid vapor and particulate nitrate and sulfate, *Atmos. Environ.*, 29, 2609-2624, 1995.

Fehsenfeld, F. C., Chapter 7 - Measurement of chemically reactive trace gases at ambient concentrations, in *Method in Ecology: Biogenic Trace Gases: Measuring Emissions from Soil and Water*, P. A. Matson and R. C. Harriss, eds., Blackwell Science, 206-258, 1995.

Goldan, P. D., M. Trainer, W. C. Kuster, D. D. Parrish, J. Carpenter, J. M. Roberts, J. E. Yee, and F. C. Fehsenfeld, Measurements of hydrocarbons, oxygenated hydrocarbons, carbon monoxide, and nitrogen oxides in an urban basin in Colorado: Implications for emission inventories, *J. Geophys. Res.*, 100, 22771-22783, 1995.

Goldan, P. D., W. C. Kuster, and F. C. Fehsenfeld, Hydrocarbon measurements in the southeastern United States: The Rural Oxidants in the Southern Environment (ROSE) Program 1990, *J. Geophys. Res.*, 100, 25945-25963, 1995.

Huey, L. G., D. R. Hanson, and C. J. Howard, Reactions of SF₆⁻ and I⁻ with atmospheric trace gases, *J. Phys. Chem.*, 99, 5001-5008, 1995.

Montzka, S. A., M. Trainer, W. M. Angevine, and F. C. Fehsenfeld, Measurements of 3-methyl furan, methyl vinyl ketone, and methacrolein at a rural forested site in the southeastern United States, *J. Geophys. Res.*, 100, 11393-11401, 1995.

Mount, G., and J. Harder, Measurement of tropospheric trace gases at Fritz Peak Observatory, Colorado, by long-path absorption: OH and ancillary gases, *J. Atmos. Sci.*, 52, 3342-3353, 1995.

Roberts, J. M., S. B. Bertman, P. B. Shepson, T. E. Kleindienst, and D. F. Smith, Comment on peroxyisobutyryl nitrate, *Environ. Sci. Technol.*, 29, 286, 1995.

Roberts, J., R. Tanner, L. Newman, V. Bowersox, J. Bottenheim, K. Anlauf, K. Brice, D. Parrish, F. Fehsenfeld, M. Buhr, J. Meagher, and E. Bailey, Relationships between PAN and ozone at sites in eastern North America, *J. Geophys. Res.*, 100, 22821-22830, 1995.

PUBLICATIONS: REGIONAL CHEMISTRY

Rudich, Y., R. Talukdar, J. B. Burkholder, and A. R. Ravishankara, Reaction of methylbutenol with hydroxyl radical: Mechanism and atmospheric implications, *J. Phys. Chem.*, **99**, 12188-12194, 1995.

Talukdar, R. K., J. B. Burkholder, A.-M. Schmoltner, J. M. Roberts, R. R. Wilson, and A. R. Ravishankara, Investigation of the loss processes for peroxyacetyl nitrate in the atmosphere: UV photolysis and reaction with OH, *J. Geophys. Res.*, **100**, 14163-14173, 1995.

Trainer, M., B. A. Ridley, M. P. Buhr, G. Kok, J. Walega, G. Hübler, D. D. Parrish, and F. C. Fehsenfeld, Regional ozone and urban plumes in the southeastern United States: Birmingham, a case study, *J. Geophys. Res.*, **100**, 18823-18834, 1995.

Valente, R. J., F. C. Thornton, and E. J. Williams, Field comparison of static and flow-through chamber techniques for measurement of soil NO emission, *J. Geophys. Res.*, **100**, 21147-21152, 1995.

Villalta, P. W., L. G. Huey, and C. J. Howard, A temperature-dependent kinetics study of the CH_3O_2 + NO reaction using chemical ionization mass spectrometry, *J. Phys. Chem.*, **99**, 12829-12834, 1995.

Watkins, B. A., D. D. Parrish, M. Trainer, R. B. Norton, J. E. Yee, F. Fehsenfeld, and B. G. Heikes, Factors influencing the concentration of gas phase hydrogen peroxide during the summer at Niwot Ridge, Colorado, *J. Geophys. Res.*, **100**, 22831-22840, 1995.

1996

Bertman, S. B., J. M. Roberts, D. D. Parrish, M. P. Buhr, P. D. Goldan, W. C. Kuster, F. C. Fehsenfeld, S. A. Montzka, and H. Westberg, Evolution of alkyl nitrates with air mass age, *J. Geophys. Res.*, **100**, 22805-22813, 1996.

Brault, J. W., New approach to high-precision Fourier transform spectrometer design, *Appl. Opt.*, **35**, 2891-2896, 1996.

Eberhard, J., and C. Howard, Temperature-dependent kinetics studies of the reactions of $\text{C}_2\text{H}_5\text{O}_2$ and $n\text{-C}_3\text{H}_7\text{O}_2$ radicals with NO, *Int. J. Chem. Kinet.*, **28**, 731-740, 1996.

Eberhard, J., P. W. Villalta, and C. J. Howard, Reaction of isopropyl peroxy radicals with NO over the temperature range 201-401 K, *J. Phys. Chem.*, **100**, 993-997, 1996.

Hauglustaine, D. A., B. A. Ridley, S. Solomon, P. G. Hess, and S. Madronich, HNO_3/NO_x ratio in the remote troposphere during MLOPEX 2: Evidence for nitric acid reduction on carbonaceous aerosols, *Geophys. Res. Lett.*, **23**, 2609-2612, 1996.

Hauglustaine, D. A., S. Madronich, B. A. Ridley, J. G. Walega, C. A. Cantrell, R. E. Shetter, and G. Hübler, Observed and model-calculated photostationary state at Mauna Loa Observatory during MLOPEX 2, *J. Geophys. Res.*, **101**, 14681-14696, 1996.

Heikes, B. G., M. Lee, J. Bradshaw, S. Sandholm, D. D. Davis, J. Crawford, J. Rodriguez, S. Liu, S. A. McKeen, D. Thornton, A. Bandy, G. Gregory, R. Talbot, and D. Blake, Hydrogen peroxide and methylhydroperoxide distributions related to ozone and odd hydrogen over the North Pacific in the fall of 1991, *J. Geophys. Res.*, **101**, 1891-1905, 1996.

Hoell, J. M., D. D. Davis, S. C. Liu, R. Newell, M. Shipham, H. Akimoto, R. J. McNeal, R. J. Bendura, and J. W. Drewry, The Pacific Exploratory Mission-West A (PEM-West A): September-October, 1991, *J. Geophys. Res.*, **101**, 1641-1653, 1996.

PUBLICATIONS: REGIONAL CHEMISTRY

Huey, L. G., and E. R. Lovejoy, Reactions of SiF_5^- with atmospheric trace gases: Ion chemistry for chemical ionization detection of HNO_3 in the troposphere, *Int. J. Mass Spectrom. Ion Processes*, 155, 133-140, 1996.

Huey, L. G., The kinetics of the reactions of Cl^- , O^- , and O_2^- with HNO_3 : Implications for measurements of HNO_3 in the atmosphere, *Int. J. Mass Spectrom. Ion Processes*, 153, 145-150, 1996.

Liu, S. C., S. A. McKeen, E.-Y. Hsie, X. Lin, K. K. Kelly, J. D. Bradshaw, S. T. Sandholm, E. V. Browell, G. L. Gregory, G. W. Sachse, A. R. Bandy, D. C. Thornton, D. R. Blake, F. S. Rowland, R. Newell, B. G. Heikes, H. Singh, and R. W. Talbot, A model study of tropospheric trace species distributions during PEM-West A, *J. Geophys. Res.*, 101, 2073-2085, 1996.

Lovejoy, E. R., and D. R. Hanson, Kinetics and products of the reaction $\text{SO}_3 + \text{NH}_3 + \text{N}_2$, *J. Phys. Chem.*, 100, 4459-4465, 1996.

Lovejoy, E. R., D. R. Hanson, and L. G. Huey, Kinetics and products of the gas phase reaction of with water, *J. Phys. Chem.*, 100, 19911-19916, 1996.

McKeen, S. A., S. C. Liu, E.-Y. Hsie, X. Lin., J. D. Bradshaw, S. Smyth, G. L. Gregory, and D. R. Blake, Hydrocarbon ratios during PEM-WEST A: A model perspective, *J. Geophys. Res.*, 101, 2087-2109, 1996.

Rudich, Y., R. K. Talukdar, and A. R. Ravishankara, Reactive uptake of NO_3 on pure water and ionic solutions, *J. Geophys. Res.*, 101, 21023-21031, 1996.

Rudich, Y., R. K. Talukdar, R. W. Fox, and A. R. Ravishankara, Rate coefficients for reactions of NO_3 with a few olefins and oxygenated olefins, *J. Phys. Chem.*, 100, 5374-5381, 1996.

Rudich, Y., R. K. Talukdar, T. Imamura, R. W. Fox, and A. R. Ravishankara, Uptake of NO_3 on KI solutions: Rate coefficient for the $\text{NO}_3 + \text{I}^-$ reaction and gas-phase diffusion coefficients for NO_3 , *Chem. Phys. Lett.*, 261, 467-473, 1996.

Singh, H. B., D. Herlth, R. Kolyer, L. Salas, J. D. Bradshaw, S. T. Sandholm, D. D. Davis, J. Crawford, Y. Kondo, M. Koike, R. Talbot, G. L. Gregory, G. W. Sachse, E. Browell, D. R. Blake, F. S. Rowland, R. Newell, J. Merrill, B. Heikes, S. C. Liu, P. J. Crutzen, and M. Kanakidou, Reactive nitrogen and ozone over the western Pacific: Distribution, partitioning, and sources, *J. Geophys. Res.*, 101, 1793-1808, 1996.

Stohl, A., E. Williams, G. Wotawa, and H. Kromp-Kolb, European inventory of soil nitric oxide emissions and the effect of these emissions on the photochemical formation of ozone, *Atmos. Environ.*, 30, 3741-3755, 1996.

Villalta, P. W., and C. J. Howard, Direct kinetics study of the $\text{CH}_3\text{C}(\text{O})\text{O}_2 + \text{NO}$ reaction using chemical ionization mass spectrometry, *J. Phys. Chem.*, 100, 13624-13628, 1996.

Villalta, P. W., E. R. Lovejoy, and D. R. Hanson, Reaction probability of peroxyacetyl radical on aqueous surfaces, *Geophys. Res. Lett.*, 23, 1765-1768, 1996.

1997

- Alvarez, R. J., C. J. Senff, R. M. Hardesty, D. D. Parrish, W. T. Luke, T. B. Watson, P. H. Daum, and N. Gillani, Validation of airborne lidar measurements of ozone with airborne in situ measurements during the 1995 Southern Oxidants Study, *J. Geophys. Res.*, submitted, 1997.
- Baumann, K., E. J. Williams, J. A. Olson, J. H. Harder, and F. C. Fehsenfeld, Meteorological characteristics and spatial extent of upslope events during the 1993 Tropospheric OH Photochemistry Experiment, *J. Geophys. Res.*, 102, 6199-6213, 1997.
- Burkholder, J. B., and S. A. McKeen, UV absorption cross sections for SO₃, *Geophys. Res. Lett.*, 24, 3201-3204, 1997.
- Cantrell, C. A., R. E. Shetter, J. G. Calvert, F. L. Eisele, E. J. Williams, K. Baumann, W. H. Brune, P. S. Stevens, and J. H. Mather, Peroxy radicals from photostationary state deviations and steady state calculations during the Tropospheric OH Photochemistry Experiment at Idaho Hill, Colorado, 1993, *J. Geophys. Res.*, 102, 6369-6378, 1997.
- de Gouw, J. A., and C. J. Howard, Direct measurement of the rate coefficient for the CH₂ = C(CH₃)C(O)O₂ + NO reaction using chemical ionization mass spectrometry, *J. Phys. Chem.*, 101, 8662-8667, 1997.
- Eberhard, J., and C. J. Howard, Rate coefficients for the reactions of some C₃ to C₅ hydrocarbon peroxy radicals with NO, *J. Phys. Chem.*, 101, 3360-3366, 1997.
- Eisele, F. L., G. H. Mount, D. Tanner, A. Jefferson, R. E. Shetter, J. H. Harder, and E. J. Williams, Understanding the production and interconversion of the hydroxyl radical during the Tropospheric OH Photochemistry Experiment, *J. Geophys. Res.*, 102, 6457-6465, 1997.
- Emmons, L. K., M. A. Carroll, D. A. Hauglustaine, G. P. Brasseur, C. Atherton, J. Penner, S. Sillman, H. Levy, II, F. Rohrer, W. M. F. Wauben, P. F. J. Van Velthoven, Y. Wang, D. Jacob, P. Bakwin, R. Dickerson, B. Doddridge, C. Gerbig, R. Honrath, G. Hübler, D. Jaffe, Y. Kondo, J. W. Munger, A. Torres, and A. Volz-Thomas, Climatologies of NO_x and NO_y: A comparison of data and models, *Atmos. Environ.*, 31, 1851-1904, 1997.
- Fried, A., S. McKeen, S. Sewell, J. Harder, B. Henry, P. Goldan, W. Kuster, E. Williams, K. Baumann, R. Shetter, and C. Cantrell, Photochemistry of formaldehyde during the 1993 Tropospheric OH Photochemistry Experiment, *J. Geophys. Res.*, 102, 6283-6296, 1997.
- Gierczak, T., J. B. Burkholder, R. K. Talukdar, A. Mellouki, S. B. Barone, and A. R. Ravishankara, Atmospheric fate of methyl vinyl ketone and methacrolein, *J. Photochem. Photobiol.*, 110, 1-10, 1997.
- Gilpin, T., E. Apel, A. Fried, B. Wert, J. Calvert, Z. Genfa, P. Dasgupta, J. H. Harder, B. Heikes, B. Hopkins, H. Westberg, T. Kleindienst, Y.-N. Lee, S. Zhou, W. Lonneman, and S. Sewell, Intercomparison of six ambient [CH₂O] techniques, *J. Geophys. Res.*, 102, 21161-21188, 1997.
- Goldan, P. D., W. C. Kuster, and F. C. Fehsenfeld, Nonmethane hydrocarbon measurements during the Tropospheric OH Photochemistry Experiment, *J. Geophys. Res.*, 102, 6315-6324, 1997.
- Gupta, S., R. T. McNider, M. Trainer, R. J. Zamora, K. Knapp, and M. P. Singh, Nocturnal wind structure and plume growth rates due to inertial oscillations, *J. Appl. Meteor.*, 36, 1050-1063, 1997.

PUBLICATIONS: REGIONAL CHEMISTRY

- Harder, J. W., A. Fried, S. Sewell, and B. Henry, Comparison of tunable diode laser and long-path ultraviolet/visible spectroscopic measurements of ambient formaldehyde concentrations during the 1993 OH Photochemistry Experiment, *J. Geophys. Res.*, 102, 6267-6282, 1997.
- Harder, J. W., and J. W. Brault, Atmospheric measurements of water vapor in the 442-nm region, *J. Geophys. Res.*, 102, 6245-6252, 1997.
- Harder, J. W., E. J. Williams, K. Baumann, and F. C. Fehsenfeld, Ground-based comparison of NO₂, H₂O, and O₃ measured by long-path and in situ techniques during the 1993 Tropospheric OH Photochemistry Experiment, *J. Geophys. Res.*, 102, 6227-6243, 1997.
- Harder, J. W., J. W. Brault, P. V. Johnston, and G. H. Mount, Temperature dependent NO₂ cross sections at high spectral resolution, *J. Geophys. Res.*, 102, 3861-3879, 1997.
- Harder, J. W., R. O. Jakoubek, and G. H. Mount, Measurement of tropospheric trace gases by long-path differential absorption spectroscopy during the 1993 OH Photochemistry Experiment, *J. Geophys. Res.*, 102, 6215-6226, 1997.
- Hoell, J. M., D. D. Davis, S. C. Liu, R. E. Newell, H. Akimoto, R. J. McNeal, and R. J. Bendura, The Pacific Exploratory Mission-West Phase B: February - March, 1994, *J. Geophys. Res.*, 102, 28223-28239, 1997.
- Imamura, R., Y. Rudich, R. K. Talukdar, R. W. Fox, and A. R. Ravishankara, Uptake of NO₃ on water solutions: Rate coefficients for reactions of NO₃ with cloud water constituents, *J. Phys. Chem.*, 101, 2316-2322, 1997.
- Lovejoy, E. R., Kinetics and thermodynamics of the gas phase reaction + NH₃ + N₂ <--> H₃N N₂, *J. Phys. Chem.*, 101, 4950-4953, 1997.
- Mauldin, R. L., III, S. Madronich, S. J. Flocke, F. L. Eisele, G. J. Frost, and A. S. H. Prevot, New insights on HO: Measurements around and in clouds, *Geophys. Res. Lett.*, 24, 3033-3036, 1997.
- McKeen, S. A., G. H. Mount, F. Eisele, E. J. Williams, J. H. Harder, P. D. Goldan, W. C. Kuster, S. C. Liu, K. Baumann, D. Tanner, A. Fried, S. Sewell, C. Cantrell, and R. Shetter, Photochemical modeling of hydroxyl and its relationship to other species during the Tropospheric OH Photochemistry Experiment, *J. Geophys. Res.*, 102, 6467-6493, 1997.
- Mount, G. H., and E. J. Williams, An overview of the Tropospheric OH Photochemistry Experiment, Fritz Peak/Idaho Hill, Colorado, fall 1993, *J. Geophys. Res.*, 102, 6171-6186, 1997.
- Mount, G., F. Eisele, D. Tanner, J. Brault, P. Johnston, J. Harder, E. Williams, A. Fried, and R. Shetter, An intercomparison of spectroscopic laser long path and ion assisted in situ measurements of hydroxyl concentration during the Tropospheric OH Photochemistry Experiment, Fall 1993, *J. Geophys. Res.*, 102, 6437-6455, 1997.
- Mount, G., J. Brault, P. Johnston, E. Marovich, R. Jakoubek, C. Volpe, J. Harder, and J. Olson, Measurement of tropospheric OH by long path laser absorption at Fritz Peak Observatory, Colorado during the OH Photochemistry Experiment, Fall 1993, *J. Geophys. Res.*, 102, 6393-6413, 1997.
- Murphy, D. M., and D. S. Thomson, Chemical composition of single aerosol particles at Idaho Hill: Positive ion measurements, *J. Geophys. Res.*, 102, 6341-6352, 1997.
- Murphy, D. M., and D. S. Thomson, Chemical composition of single aerosol particles at Idaho Hill: Negative ion measurements, *J. Geophys. Res.*, 102, 6353-6368, 1997.

PUBLICATIONS: REGIONAL CHEMISTRY

- Murphy, D. M., D. S. Thomson, M. Kaluzhny, J. J. Marti, and R. J. Weber, Aerosol characteristics at Idaho Hill during the OH Photochemistry Experiment, *J. Geophys. Res.*, 102, 6325-6330, 1997.
- Olson, J., K. Baumann, C. Volpe, J. Harder, E. Williams, and G. Mount, Meteorological overview of the 1993 OH Photochemistry Experiment, *J. Geophys. Res.*, 102, 6187-6197, 1997.
- Ravishankara, A. R., Heterogeneous and multiphase chemistry in the troposphere, *Science*, 276, 1058-1065, 1997.
- Stevens, P. S., J. H. Mather, W. H. Brune, F. Eisele, D. Tanner, A. Jefferson, C. Cantrell, R. Shetter, S. Sewell, A. Fried, B. Henry, E. Williams, K. Baumann, P. Goldan, and W. Kuster, HO₂/OH and RO₂/HO₂ ratios during the Tropospheric OH Photochemistry Experiment: Measurement and theory, *J. Geophys. Res.*, 102, 6379-6391, 1997.
- Talukdar, R. K., J. B. Burkholder, M. Hunter, M. K. Gilles, J. M. Roberts, and A. R. Ravishankara, Atmospheric fate of several alkyl nitrates: Part 2. UV absorption cross-sections and photodissociation quantum yields, *J. Chem. Soc., Farad. Trans.*, 93, 2797-2805, 1997.
- Talukdar, R. K., S. C. Herndon, J. B. Burkholder, J. M. Roberts, and A. R. Ravishankara, Atmospheric fate of several alkyl nitrates: Part 1. Rate coefficients of the reactions of alkyl nitrates with isotopically labelled hydroxyl radicals, *J. Chem. Soc., Farad. Trans.*, 93, 2787-2796, 1997.
- Williams, E. J., J. M. Roberts, K. Baumann, S. B. Bertman, S. Buhr, R. B. Norton, and F. C. Fehsenfeld, Variations in NO_y composition at Idaho Hill, Colorado, *J. Geophys. Res.*, 102, 6297-6314, 1997.
- Williams, J., J. M. Roberts, F. C. Fehsenfeld, S. B. Bertman, M. P. Buhr, P. D. Goldan, G. Hübner, W. C. Kuster, T. B. Ryerson, M. K. Trainer, and V. Young, Regional ozone from biogenic hydrocarbons deduced from airborne measurements of PAN, PPN, and MPAN, *Geophys. Res. Lett.*, 24, 1099-1102, 1997.

1998

- Angevine, W. M., A. W. Grimsdell, S. A. McKeen, and J. M. Warnock, Entrainment results from the Flatland boundary layer experiments, *J. Geophys. Res.*, 103, 13689-13701, 1998.
- Ariya, P. A., B. T. Jobson, R. Sander, H. Niki, G. W. Harris, J. F. Hopper, and K. G. Analauf, Measurements of C₂-C₇ hydrocarbons during the Polar Sunrise Experiment 1994: Further evidence for halogen chemistry in the troposphere, *J. Geophys. Res.*, 103, 13169-13180, 1998.
- Banta, R. M., C. J. Senff, A. B. White, M. Trainer, R. T. McNider, R. J. Valente, S. D. Mayor, R. J. Alvarez, R. M. Hardesty, D. Parrish, and F. C. Fehsenfeld, Daytime buildup and nighttime transport of urban ozone in the boundary-layer during a stagnation episode, *J. Geophys. Res.*, in press, 1998.
- Cowling, E. B., W. L. Chameides, C. S. Kiang, J. F. Meagher, and F. C. Fehsenfeld, Introduction to special section: Southern Oxidants Study Nashville/Middle Tennessee Ozone Study, *J. Geophys. Res.*, in press, 1998.
- de Gouw, J. A., and E. R. Lovejoy, Reactive uptake of ozone by liquid organic compounds, *Geophys. Res. Lett.*, 25, 931-934, 1998.
- Fehsenfeld, F. C., L. G. Huey, D. T. Sueper, R. B. Norton, and E. J. Williams, Ground-based intercomparison of nitric acid measurement techniques, *J. Geophys. Res.*, 103, 3343-3353, 1998.
- Frost, G. J., M. Trainer, G. Allwine, M. P. Buhr, J. G. Calvert, C. A. Cantrell, F. C. Fehsenfeld, P. D. Goldan, J. Herwehe, G. F. Hübner, W. C. Kuster, R. Martin, R. T. McMillen, S. A. Montzka, R. B. Norton, D. D. Parrish, B. A. Ridley, R. E. Shetter, J. G. Walega, B. A. Watkins, H. H. Westberg, and E. J. Williams, Photochemical ozone production in the rural southeastern United States during the 1990 ROSE Program, *J. Geophys. Res.*, in press, 1998.

PUBLICATIONS: REGIONAL CHEMISTRY

- Gierczak, T., J. B. Burkholder, S. Bauerle, and A. R. Ravishankara, Photochemistry of acetone under tropospheric conditions, *Chem. Phys.*, 231, 229-244, 1998.
- Hübler, G., R. Alvarez, P. Daum, R. Dennis, N. Gillani, L. Kleinman, W. Luke, J. F. Meagher, D. Rider, M. Trainer, and R. Valente, An overview of the airborne activities during the Southern Oxidants Study (SOS) 1995 Nashville/Middle Tennessee Ozone Study, *J. Geophys. Res.*, in press, 1998.
- Huey, L. G., E. J. Dunlea, E. R. Lovejoy, D. R. Hanson, R. B. Norton, F. C. Fehsenfeld, and C. J. Howard, Fast time response measurements of HNO_3 in air with a chemical ionization mass spectrometer, *J. Geophys. Res.*, 103, 3355-3360, 1998.
- Jobson, B. T., D. D. Parrish, P. Goldan, W. Kuster, F. C. Fehsenfeld, D. R. Blake, N. J. Blake, and H. Niki, Spatial and temporal variability of nonmethane hydrocarbon mixing ratios and their relation to photochemical lifetime, *J. Geophys. Res.*, 103, 13557-13567, 1998.
- Jobson, B. T., D. D. Parrish, T. B. Ryerson, M. P. Buhr, G. Frost, M. Trainer, and F. C. Fehsenfeld, Hydrogen peroxide dry deposition lifetime in a continental boundary layer determined from observed loss rates in a power plant plume, *J. Geophys. Res.*, in press, 1998.
- Lee, Y.-N., X. Zhou, L. I. Kleinman, L. J. Nunnermacker, S. R. Springston, P. H. Daum, L. Newman, W. G. Keigley, M. W. Holdren, C. W. Spicer, V. Young, B. Fu, D. D. Parrish, J. Holloway, J. Williams, J. M. Roberts, T. B. Ryerson, and F. C. Fehsenfeld, Atmospheric chemistry and distribution of formaldehyde and several multi-oxygenated carbonyl compounds during the 1995 Nashville/Middle Tennessee Ozone Study, *J. Geophys. Res.*, in press, 1998.
- Loomis, R. A., S. A. Leone, and M. K. Gilles, Novel five-membered ring intermediates in gas phase reactions, *Res. Chem. Intermed.*, in press, 1998.
- Lovejoy, E. R., and R. R. Wilson, Kinetic studies of negative ion reactions in a quadrupole ion trap: Absolute rate coefficients and ion energies, *J. Phys. Chem.*, 102, 2309-2315, 1998.
- McNider, R. T., W. B. Norris, A. J. Song, S. Gupta, R. M. Banta, R. J. Zamore, and M. Trainer, Meteorological conditions during the 1995 SOS Nashville/Middle Tennessee field intensive, *J. Geophys. Res.*, in press, 1998.
- Meagher, J. F., E. B. Cowling, F. C. Fehsenfeld, and W. J. Parkhurst, Relative production of ozone and nitrates in urban and rural power plant plumes I. Composite results based on data from ten field measurement days, *J. Geophys. Res.*, in press, 1998.
- Neuman, J. A., L. G. Huey, T. B. Ryerson, and D. W. Fahey, Characterization of inlet materials for sampling nitric acid, *Environ. Sci. Technol.*, submitted, 1998.
- Parrish, D. D., and F. C. Fehsenfeld, Methods for gas-phase measurements of ozone, ozone precursors and aerosol precursors, *Atmos. Environ.*, submitted, 1998.
- Parrish, D. D., M. Trainer, P. D. Goldan, W. C. Kuster, B. T. Jobson, D. Sueper, F. C. Fehsenfeld, and V. Young, Internal consistency tests for evaluation of measurements of anthropogenic hydrocarbons in the troposphere, *J. Geophys. Res.*, in press, 1998.
- Ridley, B. A., J. G. Walega, J.-F. Lamarque, F. E. Grahek, M. Trainer, G. Hübler, X. Lin, and F. C. Fehsenfeld, Measurements of reactive nitrogen and ozone to 5-km altitude in June 1990 over the southeastern United States, *J. Geophys. Res.*, 103, 8369-8388, 1998.
- Roberts, J. M., J. Williams, K. Bauman, M. P. Buhr, P. D. Goldan, J. Holloway, G. Hübler, W. C. Kuster, S. A. McKeen, T. B. Ryerson, M. Trainer, E. J. Williams, F. C. Fehsenfeld, S. B. Bertman, G. Nouaime, C. Seaver, G. Grodzinsky, M. Rodgers, and V. L. Young, Measurements of PAN, PPN and MPAN made during the 1994 and 1995 Nashville intensives of the Southern Oxidants Study: Implications for regional ozone production from biogenic hydrocarbons, *J. Geophys. Res.*, in press, 1998.

PUBLICATIONS: REGIONAL CHEMISTRY

Rudich, Y., R. K. Talukdar, and A. R. Ravishankara, Multiphase chemistry of NO_3 in the remote troposphere, *J. Geophys. Res.*, 103, 16133-16143, 1998.

Ryerson, T. B., M. P. Buhr, G. Frost, P. D. Goldan, J. S. Holloway, G. Hübler, B. T. Jobson, W. C. Kuster, S. A. McKeen, D. D. Parrish, J. M. Roberts, D. T. Sueper, M. Trainer, J. Williams, and F. C. Fehsenfeld, Emissions lifetimes and ozone formation in power plant plumes, *J. Geophys. Res.*, in press, 1998.

Trainer, M., D. D. Parrish, P. D. Goldan, J. M. Roberts, and F. C. Fehsenfeld, Regional factors influencing ozone concentrations, *Atmos. Environ.*, submitted, 1998.

Williams, E. J., K. Baumann, J. M. Roberts, S. B. Bertman, R. B. Norton, F. C. Fehsenfeld, S. R. Springston, L. J. Nunnermacker, L. Newman, K. Olszyna, J. F. Meagher, B. Bartsell, E. Edgerton, J. Pearson, and M. O. Rodgers, Intercomparison of NO_y measurement techniques, *J. Geophys. Res.*, in press, 1998.