

2003-Present CSD Peer-Reviewed Pubs by Lead Author
As of 28 April 2009

- Adachi, K., S.H. Chung, H. Friedrich, and P.R. Buseck, Fractal parameters of individual soot particles determined using electron tomography: Implications for optical properties, *J. Geophys. Res.*, 112(D14202), doi:10.1029/2006JD008296, 2007.
- Adam, P.M., J.K. Horne, and J.H. Churnside, Temporal variability in acoustic and optical backscatter measurements: Implications for survey design, *ICES J. Marine Sci.*, submitted, 2009.
- Altaratz, O., I. Koren, T. Reisin, A. Kostinski, G. Feingold, Z. Levin, and Y. Yin, Aerosols' influence on the interplay between condensation, evaporation and rain in warm cumulus cloud, *Atmos. Chem. Phys.*, 8(1), 15-24, 2008.
- Angevine, W.M., Transitional, entraining, cloudy, and coastal boundary layers, *Acta. Geophys.*, 56(1), 2-20, doi:10.2478/s11600-11007-10035-11601, 2008.
- Ashford, P., L. Kuijpers, S. Montzka, N. Campbell, D. Clodic, J. Daniel, P. Midgley, I.D. Rae, G. Verders, and D. Verdonik, Task force of Emissions discrepancies report for UNEP, (2006).
- Atlas, D., C.W. Ulbrich, and C.R. Williams, Physical origin of a wet microburst: Observations and theory, *J. Atmos. Sci.*, 61, 1186-1196, 2004.
- Atlas, D., and C.R. Williams, The anatomy of a continental tropical convective storm, *J. Atmos. Sci.*, 60(1), 3-15, 2003.
- Atlas, D., and C.R. Williams, Radar echoes from lightning and their microphysical environment, *Geophys. Res. Lett.*, 30(5), doi:10.1029/2002GL016521, 2003.
- Bahreini, R., B. Ervens, A.M. Middlebrook, C. Warneke, J. de Gouw, P. DeCarlo, J.L. Jimenez, E. Atlas, J. Brioude, C. Brock, A. Fried, J. Holloway, J.A. Neuman, J. Peischl, C. Richter, T. Ryerson, H. Stark, J. Walega, P. Weibring, A. Wollny, and F. Fehsenfeld, Organic aerosol formation in urban and industrial plumes near Houston and Dallas, Texas, *J. Geophys. Res.*, submitted, 2009.
- Bahreini, R., E.J. Dunlea, B.M. Matthew, C. Simons, K.S. Docherty, P.F. DeCarlo, J.L. Jimenez, C.A. Brock, and A.M. Middlebrook, Design and operation of a pressure controlled inlet for airborne sampling with an aerodynamic aerosol lens, *Aerosol Sci. Technol.*, 42(6), 465-471, doi:410.1080/02786820802178514, 2008.
- Bais, A.F., S. Madronich, J. Crawford, S.R. Hall, B. Mayer, M. van Weele, J. Lenoble, J.G. Calvert, C.A. Cantrell, R.E. Shetter, A. Hofzumahaus, P. Koepke, P.S. Monks, G. Frost, R. McKenzie, N. Krotkov, A. Kylling, W.H. Swartz, S. Lloyd, G. Pfister, T.J. Martin, E.-P. Roeth, E. Griffioen, A. Ruggaber, M. Krol, A. Kraus, G.D. Edwards, M. Mueller, B.L. Lefer, P. Johnston, H. Schwander, D. Flittner, B.G. Gardiner, J. Barrick, and R. Schmitt, International Photolysis Frequency Measurement and Model Intercomparison (IPMMI): Spectral actinic solar flux measurements and modeling, *J. Geophys. Res.*, 108(D16), doi:10.1029/2002JD002891, 2003.
- Banta, R.M., Stable-boundary-layer regimes from the perspective of the low-level jet, *Acta. Geophys.*, 56(1), doi:10.2478/s11600-11007-10049-11608, pp. 11658-11687, 2008.
- Banta, R.M., L. Mahrt, D. Vickers, J. Sun, B.B. Balsley, Y.L. Pichugina, and E.J. Williams, The very stable boundary layer on nights with weak low-level jets, *J. Atmos. Sci.*, 64(9), 3068-3090, doi:3010.1175/JAS4002.3061, 2007.
- Banta, R.M., Y.L. Pichugina, and W.A. Brewer, Turbulent velocity-variance profiles in the stable boundary layer generated by a nocturnal low-level jet, *J. Atmos. Sci.*, 63(11), 2700-2719, doi:2710.1175JAS3776.2701, 2006.
- Banta, R.M., C.J. Senff, J. Nielsen-Gammon, L.S. Darby, T.B. Ryerson, R.J. Alvarez, S.P. Sandberg, E.J. Williams, and M. Trainer, A bad air day in Houston, *Bull. Am. Meteorol. Soc.*, 86(5), 657-669,

doi:610.1175/BAMS-1186-1175-1657, 2005.

Bao, J.-W., S.A. Michelson, S.A. McKeen, and G.A. Grell, Meteorological evaluation of a weather-chemistry forecasting model using observations from the TEXAS AQS 2000 field experiment, *J. Geophys. Res.*, 110(D21105), doi:10.1029/2004JD005024, 2005.

Barket, D.J.J., J.W. Grossenbacher, J.M. Hurst, P.B. Shepson, K. Olszyna, T. Thornberry, M.A. Carroll, J. Roberts, C. Stroud, J. Bottenheim, and T. Biesenthal, A study of the NO_x dependence of isoprene oxidation, *J. Geophys. Res.*, 109(D11310), doi:10.1029/2003JD003965, 2004.

Barth, M.C., S.-W. Kim, C. Wang, K.E. Pickering, L.E. Ott, G. Stenchikov, M. Leriche, S. Cautenet, J.-P. Pinty, C. Barthe, C. Mari, J.H. Helsdon, R.D. Farley, A.M. Fridlind, A.S. Ackerman, V. Spiridonov, and B. Telenta, Cloud-scale model intercomparison of chemical constituent transport in deep convection, *Atmos. Chem. Phys.*, 7(18), 4709-4731, 2007.

Barth, M.C., S.-W. Kim, W.C. Skamarock, A.L. Stuart, K.E. Pickering, and L.E. Ott, Simulations of the redistribution of formaldehyde, formic acid, and peroxides in the 10 July 1996 Stratospheric-Tropospheric Experiment: Radiation, Aerosols, and Ozone deep convection storm, *J. Geophys. Res.*, 112(D13310), doi:10.1029/2006JD008046, 2007.

Bates, T.S., T.L. Anderson, T. Baynard, T. Bond, O. Boucher, G. Carmichael, A. Clarke, C. Erlick, H. Guo, L. Horowitz, S. Howell, S. Kulkarni, H. Maring, A. McComiskey, A. Middlebrook, K. Noone, C.D. O'Dowd, J. Ogren, J. Penner, P.K. Quinn, A.R. Ravishankara, D.L. Savoie, S.E. Schwartz, Y. Shinozuka, Y. Tang, R.J. Weber, and Y. Wu, Aerosol direct radiative effects over the northwest Atlantic, northwest Pacific, and North Indian Oceans: Estimates based on in-situ chemical and optical measurements and chemical transport modeling, *Atmos. Chem. Phys.*, 6(6), 1657-1732, 2006.

Battaglia, A., C. Kummerow, D.-B. Shin, and C.R. Williams, Constraining microwave brightness temperatures by radar brightband observations, *Journal of Atmospheric and Oceanic Technology*, 20, 856-871, 2003.

Baynard, T., E.R. Lovejoy, A. Pettersson, S.S. Brown, D. Lack, H. Osthoff, P. Massoli, S. Ciciora, W.P. Dubé, and A.R. Ravishankara, Design and application of a pulsed cavity ring-down aerosol extinction spectrometer for field measurements, *Aerosol Sci. Technol.*, 41(4), 447-462, doi:410.1080/02786820701222801, 2007.

Baynard, T., R.M. Garland, A.R. Ravishankara, M.A. Tolbert, and E.R. Lovejoy, Key factors influencing the relative humidity dependence of aerosol light scattering, *Geophys. Res. Lett.*, 33(L06813), doi:10.1029/2005GL024898, 2006.

Beirle, S., N. Spichtinger, A. Stohl, K.L. Cummins, T. Turner, D. Boccippio, O.R. Cooper, M. Wenig, M. Grzegorski, U. Platt, and T. Wagner, Estimating the NO_x produced by lightning from GOME and NLDN data: A case study in the Gulf of Mexico, *Atmos. Chem. Phys.*, 6(4), 1075-1089, 2006.

Bonasoni, P., P. Cristofanelli, F. Calzolari, U. Bonafè, F. Evangelisti, A. Stohl, S.Z. Sajani, R. van Dingenen, T. Colombo, and Y. Balkanski, Aerosol-ozone correlations during dust transport episodes, *Atmos. Chem. Phys.*, 4, 1201-1215, doi:1680-7324/acp/2004-1204-1201, 2004.

Boulter, J.E., D.J. Cziczo, A.M. Middlebrook, D.S. Thomson, and D.M. Murphy, Design and performance of a pumped counterflow virtual impactor, *Aerosol Sci. Technol.*, 40(11), 969-976, doi:910.1080/02786820600840984, 2006.

Bouvier-Brown, N.C., A.H. Goldstein, D.R. Worton, D.M. Matross, J.B. Gilman, W.C. Kuster, D. Walsh-Bon, C. Warneke, J.A. de Gouw, T.M. Cahill, and R. Holzinger, Methyl chavicol: Characterization of its biogenic emission rate, abundance, and oxidation products in the atmosphere, *Atmos. Chem. Phys.*, 9(6), 2061-2074, 2009.

Bowman, K.P., L.L. Pan, T. Campos, and R. Gao, Observations of fine-scale transport structure in the upper troposphere from the High-performance Instrumented Airborne Platform for Environmental Research, *J.*

Geophys. Res., 112(D18111), doi:10.1029/2007JD008685, 2007.

Brasseur, G.P., M. Schultz, C. Granier, M. Saunois, T. Diehl, M. Botzet, E. Roeckner, and S. Walters, Impact of climate change on the future chemical composition of the global troposphere, *J. Clim.*, 19(16), 3932-3951, doi:3910.1175/JCLI3832.3931, 2006.

Brasseur, G., and S. Solomon, *Aeronomy of the Middle Atmosphere: Chemistry and Physics of the Stratosphere and Mesosphere*, Third ed., 452 pp., Kluwer Academic Publishers, Norwell, Mass., USA; D. Reidel Publishing Company, Dordrecht, Holland, The Netherlands, 2005.

Brasseur, G., W. Steffen, and C. Granier, Atmospheric Composition and Surface Exchanges, in *Emissions of Atmospheric Trace Compounds*, edited by C. Granier, P. Artaxo and C.E. Reeves, pp. 1-16, Kluwer Academic Publishers, Dordrecht, The Netherlands, (2004).

Brioude, J., O.R. Cooper, M. Trainer, T.B. Ryerson, J.S. Holloway, T. Baynard, J. Peischl, C. Warneke, J.A. Neuman, J. de Gouw, A. Stohl, S. Eckhardt, G.J. Frost, S.A. McKeen, E.-Y. Hsie, F.C. Fehsenfeld, and P. Nédélec, Mixing between a stratospheric intrusion and a biomass burning plume, *Atmos. Chem. Phys.*, 7(16), 4229-4235, 2007.

Brioude, J., J.-P. Cammas, and O.R. Cooper, Stratosphere-troposphere exchange in a summertime extratropical low: Analysis, *Atmos. Chem. Phys.*, 6(8), 2337-2353, 2006.

Brock, C.A., A.P. Sullivan, R.E. Peltier, R.J. Weber, A. Wollny, J.A. de Gouw, A.M. Middlebrook, E.L. Atlas, A. Stohl, M.K. Trainer, O.R. Cooper, F.C. Fehsenfeld, G.J. Frost, J.S. Holloway, G. Hübler, J.A. Neuman, T.B. Ryerson, C. Warneke, and J.C. Wilson, Sources of particulate matter in the northeastern United States in summer: 2. Evolution of chemical and microphysical properties, *J. Geophys. Res.*, 113(D08302), doi:10.1029/2007JD009241, 2008.

Brock, C.A., P.K. Hudson, E.R. Lovejoy, A. Sullivan, J.B. Nowak, L.G. Huey, O.R. Cooper, D.J. Cziczo, J.A. de Gouw, F.C. Fehsenfeld, J.S. Holloway, G. Hübler, B.G. Lafleur, D.M. Murphy, J.A. Neuman, D.K. Nicks, Jr., D.A. Orsini, D.D. Parrish, T.B. Ryerson, D.J. Tanner, C. Warneke, R.J. Weber, and J.C. Wilson, Particle characteristics following cloud-modified transport from Asia to North America, *J. Geophys. Res.*, 109(D23S26), doi:10.1029/2003JD004198, 2004.

Brock, C.A., D. Eatough, and P.A. Solomon, Preface to special section on particulate matter: Atmospheric sciences, exposure, and the fourth colloquium on particulate matter and human health, *J. Geophys. Res.*, 109(D16S01), doi:10.1029/2004JD005040, 2004.

Brock, C.A., M. Trainer, T.B. Ryerson, J.A. Neuman, D.D. Parrish, J.S. Holloway, D.K. Nicks, Jr., G.J. Frost, G. Hübler, F.C. Fehsenfeld, J.C. Wilson, J.M. Reeves, B.G. Lafleur, H. Hilbert, E.L. Atlas, S.G. Donnelly, S.M. Schauffler, V.R. Stroud, and C. Wiedinmyer, Particle growth in urban and industrial plumes in Texas, *J. Geophys. Res.*, 108(D3), doi:10.1029/2002JD002746, 2003.

Brooks, S.D., D. Baumgardner, B. Gandrud, J.E. Dye, M.J. Northway, D.W. Fahey, T.P. Bui, O.B. Toon, and M.A. Tolbert, Measurements of large stratospheric particles in the Arctic polar vortex, *J. Geophys. Res.*, 108(D20), doi:10.1029/2002JD003278, 2003.

Brown, S.S., J. de Gouw, C. Warneke, T.B. Ryerson, W.P. Dubé, E. Atlas, R.J. Weber, R.E. Peltier, J.A. Neuman, J.M. Roberts, A. Swanson, R. Flocke, S.A. McKeen, J. Brioude, R. Sommariva, M. Trainer, F. Fehsenfeld, and A.R. Ravishankara, Nocturnal isoprene oxidation over the Northeast United States in summer and its impact on reactive nitrogen partitioning and secondary organic aerosol, *Atmos. Chem. Phys. Disc.*, 9, 225-269, 2009.

Brown, S.S., W.P. Dubé, H. Fuchs, T. Ryerson, A. Wollny, C. Brock, R. Bahreini, A. Middlebrook, A. Neuman, E. Atlas, J. Roberts, H. Osthoff, M. Trainer, F. Fehsenfeld, and A.R. Ravishankara, Reactive uptake coefficients for NO₂O determined from aircraft measurements during TexAQS 2006: Comparison to current model parameterizations, *J. Geophys. Res.*, in press, 2009.

- Brown, S.S., W.P. Dubé, H.D. Osthoff, D.E. Wolfe, W.M. Angevine, and A.R. Ravishankara, High resolution vertical distributions of NO_3 and N_2O_5 through the nocturnal boundary layer, *Atmos. Chem. Phys.*, 7(1), 139-149, 2007.
- Brown, S.S., W.P. Dubé, H.D. Osthoff, J. Stutz, T.B. Ryerson, A.G. Wollny, C.A. Brock, C. Warneke, J.A. de Gouw, E. Atlas, J.A. Neuman, J.S. Holloway, B.M. Lerner, E.J. Williams, W.C. Kuster, P.D. Goldan, W.M. Angevine, M. Trainer, F.C. Fehsenfeld, and A.R. Ravishankara, Vertical profiles in NO_3 and N_2O_5 measured from an aircraft: Results from the NOAA P-3 and surface platforms during New England Air Quality Study 2004, *J. Geophys. Res.*, 112(D22304), doi:10.1029/2007JD008883, 2007.
- Brown, S.S., J.A. Neuman, T.B. Ryerson, M. Trainer, W.P. Dubé, J.S. Holloway, C. Warneke, J.A. de Gouw, S.G. Donnelly, E. Atlas, B. Matthew, A.M. Middlebrook, R. Peltier, R.J. Weber, A. Stohl, J.F. Meagher, F.C. Fehsenfeld, and A.R. Ravishankara, Nocturnal odd-oxygen budget and its implications for ozone loss in the lower troposphere, *Geophys. Res. Lett.*, 33(L08801), doi:10.1029/2006GL025900, 2006.
- Brown, S.S., T.B. Ryerson, A.G. Wollny, C.A. Brock, R. Peltier, A.P. Sullivan, R.J. Weber, W.P. Dubé, M. Trainer, J.F. Meagher, F.C. Fehsenfeld, and A.R. Ravishankara, Variability in nocturnal nitrogen oxide processing and its role in regional air quality, *Science*, 311, 67-70, doi:10.1126/science.1120120, 2006.
- Brown, S.S., H.D. Osthoff, H. Stark, W.P. Dubé, T.B. Ryerson, C. Warneke, J.A. de Gouw, A.G. Wollny, D.D. Parrish, F.C. Fehsenfeld, and A.R. Ravishankara, Aircraft observations of daytime NO_3 and N_2O_5 and their implications for tropospheric chemistry, *J. Photochem. Photobiol. A*, 176(1-3), 270-278, doi:210.1016/j.jphotochem.2005.1010.1004, 2005.
- Brown, S.S., J.E. Dibb, H. Stark, M. Aldener, M. Vozella, S. Whitlow, E.J. Williams, B.M. Lerner, R. Jakoubek, A.M. Middlebrook, J.A. de Gouw, C. Warneke, P.D. Goldan, W.C. Kuster, W.M. Angevine, D.T. Sueper, P.K. Quinn, T.S. Bates, J.F. Meagher, F.C. Fehsenfeld, and A.R. Ravishankara, Nighttime removal of NO_x in the summer marine boundary layer, *Geophys. Res. Lett.*, 31(L07108), doi:10.1029/2004GL019412, 2004.
- Brown, S.S., Absorption spectroscopy in high-finesse cavities for atmospheric studies, *Chem. Rev.*, 103, 5219-5238, doi:5210.1021/cr020645c, 2003.
- Brown, S.S., H. Stark, and A.R. Ravishankara, Applicability of the steady state approximation to the interpretation of atmospheric observations of NO_3 and N_2O_5 , *J. Geophys. Res.*, 108(D17), doi:10.1029/2003JD003407, 2003.
- Brown, S.S., H. Stark, T.B. Ryerson, E.J. Williams, D.K. Nicks, Jr., M. Trainer, F.C. Fehsenfeld, and A.R. Ravishankara, Nitrogen oxides in the nocturnal boundary layer: Simultaneous in situ measurements of NO_3 , N_2O_5 , NO_2 , NO , and O_3 , *J. Geophys. Res.*, 108(D9), doi:10.1029/2002JD002917, 2003.
- Burkholder, J.B., T. Baynard, A.R. Ravishankara, and E.R. Lovejoy, Particle nucleation following the O_3 and OH initiated oxidation of α -Pinene and β -Pinene between 278 and 320 K, *J. Geophys. Res.*, 112(D10216), doi:10.1029/2006JD007783, 2007.
- Burkholder, J.B., J. Curtius, A.R. Ravishankara, and E.R. Lovejoy, Laboratory studies of the homogeneous nucleation of iodine oxides, *Atmos. Chem. Phys.*, 4, 19-34, 2004.
- Canagaratna, M.R., J.T. Jayne, J.L. Jiménez, J.D. Allan, M.R. Alfarra, Q. Zhang, T.B. Onasch, F. Drewnick, H. Coe, A. Middlebrook, A. Delia, L.R. Williams, A.M. Trimborn, M.J. Northway, C.E. Kolb, P. Davidovits, and D.R. Worsnop, Chemical and microphysical characterization of ambient aerosols with the Aerodyne aerosol mass spectrometer, *Mass Spectrometry Reviews*, 26(2), 185-222, doi:110.1002/mas.20115, 2007.
- Canty, T., E.D. Rivière, R.J. Salawitch, G. Berthet, J.-B. Renard, K. Pfeilsticker, M. Dorf, A. Butz, H. Bösch, R.M. Stimpfle, D.M. Wilmouth, E.C. Richard, D.W. Fahey, P.J. Popp, M.R. Schoeberl, L.R. Lait, and T.P. Bui, Nighttime OCIO in the winter Arctic vortex, *J. Geophys. Res.*, 110(D01301), 2005.
- Cappa, C.D., D.A. Lack, J.B. Burkholder, and A.R. Ravishankara, Bias in filter-based aerosol light absorption

measurements due to organic aerosol loading: Evidence from laboratory measurements, *Aerosol Sci. Technol.*, 42, 1022-1032, doi:10.1080/02786820802389285, 2008.

Cappa, C.D., E.R. Lovejoy, and A.R. Ravishankara, Evaporation rates and vapor pressures of the even-numbered C₈-C₁₈ monocarboxylic acids, *J. Phys. Chem. A*, 112(17), 3959-3964, doi:10.1021/jp710586m, 2008.

Cappa, C.D., E.R. Lovejoy, and A.R. Ravishankara, Determination of evaporation rates and vapor pressures of very low volatility compounds: A study of the C4-C10 dicarboxylic acids, *J. Phys. Chem. A*, 111(16), 3099-3109, doi:3010.1021/jp068686q 2007.

Carlton, A.G., B.J. Turpin, K.E. Altieri, A. Reff, S. Seitzinger, A. Reff, H.-J. Lim, and B. Ervens, Atmospheric oxalic acid and SOA production from glyoxal: Results of aqueous photooxidation experiments, *Atmos. Environ.*, 41(34), 7588-7602, doi:7510.1016/j.atmosenv.2007.7505.7035, 2007.

Carrera, P., J.H. Churnside, G. Boyra, V. Marques, C. Scalabrin, and A. Uriarte, Comparison of airborne lidar with echosounders: A case study in the coastal Atlantic waters of southern Europe, *ICES J. Marine Sci.*, 63(9), 1736-1750, doi:1710.1016/j.icesjms.2006.1707.1004, 2006.

Chai, T., G.R. Carmichael, Y. Tang, A. Sandu, M. Hardesty, P. Pilewskie, S. Whitlow, E.V. Browell, M.A. Avery, P. Nédélec, J.T. Merrill, A.M. Thompson, and E. Williams, Four-dimensional data assimilation experiments with International Consortium for Atmospheric Research on Transport and Transformation ozone measurements, *J. Geophys. Res.*, 112(D12S15), doi:10.1029/2006JD007763, 2007.

Chen, G., L.G. Huey, M. Trainer, D. Nicks, J. Corbett, T. Ryerson, D. Parrish, J.A. Neuman, J. Nowak, D. Tanner, J. Holloway, C. Brock, J. Crawford, J.R. Olson, A. Sullivan, R. Weber, S. Schauffler, S. Donnelly, E. Atlas, J. Roberts, F. Flocke, G. Hübner, and F. Fehsenfeld, An investigation of the chemistry of ship emission plumes during ITCT 2002, *J. Geophys. Res.*, 110(D10S90), doi:10.1029/2004JD005236, 2005.

Chuang, P.Y., and G. Feingold, Clouds in the Perturbed Climate System: Their Relationship to Energy Balance, Atmospheric Dynamics, and Precipitation, in *The Extent and Nature of Anthropogenic Perturbations of Clouds: Strungmann Forum Report*, edited by J. Heintzenberg and R.J. Charlson, The MIT Press, Cambridge, Mass., (2009).

Churnside, J., R. Brodeur, J. Horne, P. Adam, K. Benoit-Bird, D.C. Reese, A. Kaltenberg, and E. Brown, Chapter 19 - Combining techniques for remotely assessing pelagic nekton: getting the whole picture, in *The Future of Fisheries Research in North America*, edited by R. Beamish and B. Rithschild, pp. 345-356, Springer, BERLIN, (2009).

Churnside, J., R. Brodeur, J. Horne, P. Adam, K. Benoit-Bird, D. Reese, A. Kaltenberg, and E. Brown, Combining techniques for remotely assessing pelagic nekton: Getting the whole picture, in *The Future of Fisheries Research in North America*, edited by S. (Publisher), p. Submitted, (2009).

Churnside, J., R. Brodeur, J. Horne, P. Adam, K. Benoit-Bird, D. Reese, A. Kaltenberg, and E. Brown, Combining techniques for remotely assessing pelagic nekton: Getting the whole picture, in *The Future of Fisheries Research in North America*, edited by S. (Publisher), p. Submitted, (2009).

Churnside, J.H., E. Tenningen, and J.J. Wilson, Comparison of data processing algorithms for fish lidar detection of mackerel in the Norwegian Sea, *ICES J. Marine Sci.*, in press, 2009.

Churnside, J., D. Griffin, D.A. Demer, R.L. Emmett, and R.D. Brodeur, Fist lidar surveys on two scales in the Northeast Pacific Ocean, *Calif. COFI Reports*, submitted, 2009.

Churnside, J., L. Ostrovsky, and T. Veenstra, Thermal footprints of whales, *Oceanography*, 22(1), 206-209, 2009.

Churnside, J.H., and P.L. Donaghay, Thin scattering layers observed by airborne lidar, *ICES J. Marine Sci.*, In press, doi:10.1093/iesjms/fsp029, 2009.

- Churnside, J.H., H.E. Bravo, K.A. Naugolnykh, and I.M. Fuks, Effects of underwater sound and surface ripples on scattered laser light, *Acoust. Phys.*, 54(2), 204-209, doi:210.1007/s11441-11008-12007-11447, 2008.
- Churnside, J.H., Polarization effects on oceanographic lidar, *Optics Express*, 16(2), 1196-1207, 2008.
- Churnside, J.H., and J.J. Wilson, Power spectrum and fractal dimension of laser backscattering from the ocean, *Journal of the Optical Society of America A*, 23(11), 2829-2833, 2006.
- Churnside, J.H., and R.E. Thorne, Comparison of airborne lidar measurements with 420 kHz echo-sounder measurements of zooplankton, *Appl. Opt.*, 44(26), 5504-5511, 2005.
- Churnside, J.H., and L.A. Ostrovsky, Lidar observation of a strongly nonlinear internal wave train in the Gulf of Alaska, *Int. J. Remote Sens.*, 26(1), 167-177, doi:110.1080/01431160410001735076, 2005.
- Ciesielski, P.E., R.H. Johnson, P.T. Haertel, and J. Wang, Corrected TOGA COARE sounding humidity data: Impact on diagnosed properties of convection and climate over the warm pool, *J. Clim.*, 16, 2370-2384, 2003.
- Collins, W.D., V. Ramaswamy, M.D. Schwarzkopf, Y. Sun, R.W. Portmann, Q. Fu, S.E.B. Casanova, J.-L. Dufresne, D.W. Fillmore, P.M.D. Forster, V.Y. Galin, L.K. Gohar, W.J. Ingram, D.P. Kratz, M.-P. Lefebvre, J. Li, P. Marquet, V. Oinas, Y. Tushima, T. Uchiyama, and W.Y. Zhong, Radiative forcing by well-mixed greenhouse gases: Estimates from climate models in the Intergovernmental Panel on Climate Change (IPCC) Fourth Assessment Report (AR4), *J. Geophys. Res.*, 111(D14317), doi:10.1029/2005JD006713, 2006.
- Cooper, O.R., S. Eckhardt, J.H. Crawford, C.C. Brown, R.C. Cohen, T.H. Bertram, P. Wooldridge, A. Perring, W.H. Brune, X. Ren, D. Brunner, and S.L. Baughcum, Summertime buildup and decay of lightning NO_x and aged thunderstorm outflow above North America, *J. Geophys. Res.*, 114(D01101), doi:10.1029/2008JD010293, 2009.
- Cooper, O.R., M. Trainer, A.M. Thompson, S.J. Oltmans, D.W. Tarasick, J.C. Witte, A. Stohl, S. Eckhardt, J. Lelieveld, M.J. Newchurch, B.J. Johnson, R.W. Portmann, L. Kalnajs, M.K. Dubey, T. Leblanc, I.S. McDermid, G. Forbes, D. Wolfe, T. Carey-Smith, G.A. Morris, B. Lefer, B. Rappenglück, E. Joseph, F. Schmidlin, J. Meagher, F.C. Fehsenfeld, T.J. Keating, R.A. Van Curen, and K. Minschwaner, Evidence for a recurring eastern North America upper tropospheric ozone maximum during summer, *J. Geophys. Res.*, 112(D23304), doi:10.1029/2007JD008710, 2007.
- Cooper, O.R., A. Stohl, M. Trainer, A.M. Thompson, J.C. Witte, S.J. Oltmans, G. Morris, K.E. Pickering, J.H. Crawford, G. Chen, R.C. Cohen, T.H. Bertram, P. Wooldridge, A. Perring, W.H. Brune, J. Merrill, J.L. Moody, D. Tarasick, P. Nédélec, G. Forbes, M.J. Newchurch, F.J. Schmidlin, B.J. Johnson, S. Turquety, S.L. Baughcum, X. Ren, F.C. Fehsenfeld, J.F. Meagher, N. Spichtinger, C.C. Brown, S.A. McKeen, I.S. McDermid, and T. Leblanc, Large upper tropospheric ozone enhancements above midlatitude North America during summer: In situ evidence from the IONS and MOZAIC ozone measurement network, *J. Geophys. Res.*, 111(D24S05), doi:10.1029/2006JD007306, 2006.
- Cooper, O.R., A. Stohl, G. Hübler, E.-Y. Hsie, D.D. Parrish, A.F. Tuck, G.N. Kiladis, S.J. Oltmans, B.J. Johnson, M. Shapiro, J.L. Moody, and A.S. Lefohn, Direct transport of mid-latitude stratospheric ozone into the lower troposphere and marine boundary layer of the tropical Pacific Ocean, *J. Geophys. Res.*, 110(D23310), doi:10.1029/2005JD005783, 2005.
- Cooper, O.R., A. Stohl, S. Eckhardt, D.D. Parrish, S.J. Oltmans, B.J. Johnson, P. Nédélec, F.J. Schmidlin, M.J. Newchurch, Y. Kondo, and K. Kita, A springtime comparison of tropospheric ozone and transport pathways on the east and west coasts of the United States, *J. Geophys. Res.*, 110(D05S90), doi:10.1029/2004JD005183, 2005.
- Cooper, O.R., and D.D. Parrish, Air Pollution Export from and Import to North America: Experimental Evidence, in *Intercontinental Transport of Air Pollution, The Handbook of Environmental Chemistry*, edited by O. Hutzinger, pp. 41-67, doi:10.1007/b94523, Springer-Verlag, Heidelberg, Germany, (2004).

- Cooper, O.R., C. Forster, D. Parrish, M. Trainer, E. Dunlea, T. Ryerson, G. Hübler, F. Fehsenfeld, D. Nicks, J. Holloway, J. de Gouw, C. Warneke, J.M. Roberts, F. Flocke, and J. Moody, A case study of transpacific warm conveyor belt transport: Influence of merging airstreams on trace gas import to North America, *J. Geophys. Res.*, 109(D23S08), doi:10.1029/2003JD003624, 2004.
- Cooper, O., C. Forster, D. Parrish, E. Dunlea, G. Hübler, F. Fehsenfeld, J. Holloway, S. Oltmans, B. Johnson, A. Wimmers, and L. Horowitz, On the life cycle of a stratospheric intrusion and its dispersion into polluted warm conveyor belts, *J. Geophys. Res.*, 109(D23S09), doi:10.1029/2003JD004006, 2004.
- Cubison, M.J., B. Ervens, G. Feingold, K.S. Doherty, I.M. Ulbrich, L. Shields, K. Prather, S. Hering, and J.L. Jimenez, The influence of chemical composition and mixing state of Los Angeles urban aerosol on CCN number and cloud properties, *Atmos. Chem. Phys. Disc.*, 8, 5629-5681, 2008.
- Custer, T.G., S. Kato, V.M. Bierbaum, C.J. Howard, and G.C. Morrison, Gas-phase kinetics and mechanism of the reactions of protonated hydrazine with carbonyl compounds. Gas-phase hydrazone formation: Kinetics and mechanism, *Journal of the American Chemical Society*, 126(9), 2744-2754, doi:2710.1021/ja0350886, 2004.
- Cziczo, D.J., D.S. Thomson, T.L. Thompson, P.J. DeMott, and D.M. Murphy, Particle analysis by laser mass spectrometry (PALMS) studies of ice nuclei and other low number density particles, *Int. J. Mass Spectrom.*, 258(1-3), 21-29, doi:10.1016/j.ijms.2006.1005.1013, 2006.
- Cziczo, D.J., P.J. DeMott, S.D. Brooks, A.J. Prenni, D.S. Thomson, D. Baumgardner, J.C. Wilson, S.M. Kreidenweis, and D.M. Murphy, Observations of organic species and atmospheric ice formation, *Geophys. Res. Lett.*, 31(L12116), doi:10.1029/2004GL019822, 2004.
- Cziczo, D.J., D.M. Murphy, P.K. Hudson, and D.S. Thomson, Single particle measurements of the chemical composition of cirrus ice residue during CRYSTAL-FACE, *J. Geophys. Res.*, 109(D04201), doi:10.1029/2003JD004032, 2004.
- Cziczo, D.J., P.J. DeMott, C. Brock, P.K. Hudson, B. Jesse, S.M. Kreidenweis, A.J. Prenni, J. Schreiner, D.S. Thomson, and D.M. Murphy, A method for single particle mass spectrometry of ice nuclei, *Aerosol Sci. Technol.*, 37, 460-470, doi: 410.1080/02786820390112687, 2003.
- Dabberdt, W.F., M.A. Carroll, D. Baumgardner, G. Carmichael, R. Cohen, T. Dye, J. Ellis, G. Grell, S. Grimmond, S. Hanna, J. Irwin, B. Lamb, S. Madronich, J. McQueen, J. Meagher, T. Odman, J. Pleim, H.P. Schmid, and D.L. Westphal, Meteorological research needs for improved air quality forecasting, *Bull. Am. Meteorol. Soc.*, 85(4), 563-586, doi:510.1175/BAMS-1185-1174-1563, 2004.
- Dall'Amico, M., L.J. Gray, K.H. Rosenlof, A.A. Scaife, K.P. Shine, and P.A. Stott, Stratospheric temperature trends: Impact of ozone variability and the QBO *Clim. Dyn.*, *in press*, 2009.
- Damoah, R., N. Spichtinger, C. Forster, P. James, I. Mattis, U. Wandinger, S. Beirle, T. Wagner, and A. Stohl, Around the world in 17 days – hemispheric-scale transport of forest fire smoke from Russia in May 2003, *Atmos. Chem. Phys.*, 4, 1311-1321, doi:1680-7324/acp/3005-1314-1311, 2004.
- Daniel, J.S., G.J.M. Velders, S. Solomon, M. McFarland, and S.A. Montzka, Present and future sources and emissions of halocarbons: Towards new constraints, *J. Geophys. Res.*, 112(D02301), doi:10.1029/2006JD007275, 2007.
- Daniel, J.S., R.W. Portmann, H.L. Miller, S. Solomon, A.O. Langford, C.S. Eubank, R. Schofield, D.D. Turner, and M.D. Shupe, Cloud property estimates from zenith spectral measurements of scattered sunlight between 0.9 and 1.7 μ m, *J. Geophys. Res.*, 111(D16208), doi:10.1029/2005JD006641, 2006.
- Daniel, J.S., S. Solomon, H.G. Kjaergaard, and D.P. Schofield, Atmospheric water vapor complexes and the continuum, *Geophys. Res. Lett.*, 31(L06118), doi:10.1029/2003GL018914, 2004.
- Daniel, J.S., S. Solomon, H.L. Miller, A.O. Langford, R.W. Portmann, and C.S. Eubank, Retrieving cloud

information from passive measurements of solar radiation absorbed by molecular oxygen and O₂-O₂, *J. Geophys. Res.*, 108(D16), doi:10.1029/2002JD002994, 2003.

Danilin, M.Y., P.J. Popp, R.L. Herman, M.K.W. Ko, M.N. Ross, C.E. Kolb, D.W. Fahey, L.M. Avallone, D.W. Toohey, B.A. Ridley, O. Schmid, J.C. Wilson, D.G. Baumgardner, R.R. Friedl, T.L. Thompson, and J.M. Reeves, Quantifying uptake of HNO₃ and H₂O by alumina particles in Athena-2 rocket plume, *J. Geophys. Res.*, 108(D4), 4141, doi:4110.1029/2002JD002601, 2003.

Darby, L.S., S.A. McKeen, C.J. Senff, A.B. White, R.M. Banta, M.J. Post, W.A. Brewer, R. Marchbanks, R.J. Alvarez II, S.E. Peckham, H. Mao, and R. Talbot, Ozone differences between near-coastal and offshore sites in New England: Role of meteorology, *J. Geophys. Res.*, 112(D16S91), doi:10.1029/2007JD008446, 2007.

Darby, L.S., and G.S. Poulos, The evolution of lee-wave-rotor activity in the lee of Pike's Peak under the influence of a cold frontal passage: Implications for aircraft safety, *Mon. Wea. Rev.*, 134(10), 2857-2876, 2006.

Darby, L.S., K.J. Allwine, and R.M. Banta, Nocturnal low-level jet in a mountain basin complex: II, Transport and diffusion of tracer under stable conditions, *Journal of Applied Meteorology*, 45(5), 740-753, doi:710.1175/JAM2367.1171, 2006.

Darby, L.S., Cluster analysis of surface winds in Houston, Texas, and the impact of wind patterns on ozone, *Journal of Applied Meteorology*, 44(12), 1788-1806, doi:10.1175/JAM2320.1, 2005.

Davies, S., M.P. Chipperfield, K.S. Carslaw, B.-M. Sinnhuber, J.G. Anderson, R.M. Stimpfle, D.M. Wilmouth, D.W. Fahey, P.J. Popp, E.C. Richard, P. von der Gathen, H. Jost, and C.R. Webster, Modeling the effect of denitrification on Arctic ozone depletion during winter 1999/2000, *J. Geophys. Res.*, 108(D5), doi:10.1029/2001JD000445, 2003.

Davis, M.E., R.K. Talukdar, G. Notte, G.B. Ellison, and J.B. Burkholder, Rate coefficients for the OH + pinonaldehyde (C₁₀H₁₆O₂) reaction between 297 and 374 K, *Environ. Sci. Technol.*, 41(11), 3959-3965, doi:3910.1021/es070048d 2007.

Davis, M.E., M.K. Gilles, A.R. Ravishankara, and J. Burkholder, Rate coefficients for the reaction of OH with (E)-2-pentenal, (E)-2-hexenal, and (E)-2-heptenal, *Physical Chemistry Chemical Physics*, 9(18), 2240-2248, doi:2210.1039/b700235a, 2007.

de F. Forster, P.M., J.B. Burkholder, C. Clerbaux, P.F. Coheur, M. Dutta, L.K. Gohar, M.D. Hurley, G. Myhre, R.W. Portmann, K.P. Shine, T.J. Wallington, and D. Wuebbles, Resolution of the uncertainties in the radiative forcing of HFC-134a, *Journal of Quantitative Spectroscopy & Radiative Transfer*, 93(4), 447-460, doi:10.1016/j.jqsrt.2004.08.038, 2005.

de F. Forster, P.M., and S. Solomon, Observations of a "weekend effect" in diurnal temperature range, *Proceedings of the National Academy of Sciences of the United States of America*, 100(20), 11225-11230, doi:11210.11073/pnas.2034034100, 2003.

de Gouw, J.A., S. Te Lintel Hekkert, J. Mellqvist, C. Warneke, E.L. Atlas, F.C. Fehsenfeld, A. Fried, G.J. Frost, F.J.M. Harren, J.S. Holloway, B. Lefer, R. Lueb, J.F. Meagher, D.D. Parrish, M. Patel, L. Pope, D. Richter, C. Rivera, T.B. Ryerson, J. Samuelsson, J. Walega, R.A. Washenfelder, P. Weibring, and X. Zhu, Airborne measurements of ethene from industrial sources using laser photo-acoustic spectroscopy, *Environ. Sci. Technol.*, 43(7), 2437-2442, doi:10.1021/es802701a, 2009.

de Gouw, J.A., C. Warneke, S.A. Montzka, J.S. Holloway, D.D. Parrish, F.C. Fehsenfeld, E.L. Atlas, R.J. Weber, and F.M. Flocke, Carbonyl sulfide as an inverse tracer for biogenic organic carbon in gas and aerosol phases, *Geophys. Res. Lett.*, 36(L050804), doi:10.1029/2008GL036910, 2009.

de Gouw, J.A., and J.-L. Jimenez, Organic aerosols in the Earth's atmosphere, *Environ. Sci. Technol.*, in press, 2009.

- de Gouw, J.A., C.A. Brock, E.L. Atlas, T.S. Bates, F.C. Fehsenfeld, P.D. Goldan, J.S. Holloway, W.C. Kuster, B.M. Lerner, B.M. Matthew, A.M. Middlebrook, T.B. Onasch, R.E. Peltier, P.K. Quinn, C.J. Senff, A. Stohl, A.P. Sullivan, M. Trainer, C. Warneke, R.J. Weber, and E.J. Williams, Sources of particulate matter in the northeastern United States in summer: 1. Direct emissions and secondary formation of organic matter in urban plumes, *J. Geophys. Res.*, 113(D08301), doi:10.1029/2007JD009243, 2008.
- de Gouw, J., and C. Warneke, Measurements of volatile organic compounds in the earth's atmosphere using proton-transfer-reaction mass spectrometry, *Mass Spectrometry Reviews*, 26(2), 223-257, doi:210.1002/mas.20119, 2007.
- de Gouw, J.A., C. Warneke, A. Stohl, A.G. Wollny, C.A. Brock, O.R. Cooper, J.S. Holloway, M. Trainer, F.C. Fehsenfeld, E.L. Atlas, S.G. Donnelly, V. Stroud, and A. Lueb, Volatile organic compounds composition of merged and aged forest fire plumes from Alaska and western Canada, *J. Geophys. Res.*, 111(D10303), doi:10.1029/2005JD006175, 2006.
- de Gouw, J.A., A.M. Middlebrook, C. Warneke, P.D. Goldan, W.C. Kuster, J.M. Roberts, F.C. Fehsenfeld, D.R. Worsnop, M.R. Canagaratna, A.A.P. Pszenny, W.C. Keene, M. Marchewka, S.B. Bertman, and T.S. Bates, Budget of organic carbon in a polluted atmosphere: Results from the New England Air Quality Study in 2002, *J. Geophys. Res.*, 110(D16305), doi:10.1029/2004JD005623, 2005.
- de Gouw, J.A., O.R. Cooper, C. Warneke, P.K. Hudson, F.C. Fehsenfeld, J.S. Holloway, G. Hübler, D.K. Nicks, Jr., J.B. Nowak, D.D. Parrish, T.B. Ryerson, E.L. Atlas, S.G. Donnelly, S.M. Schauffler, V. Stroud, K. Johnson, G.R. Carmichael, and D.G. Streets, Chemical composition of air masses transported from Asia to the U.S. West Coast during ITCT 2K2: Fossil fuel combustion versus biomass-burning signatures, *J. Geophys. Res.*, 109(D23S20), doi:10.1029/2003JD004202, 2004.
- de Gouw, J., C. Warneke, R. Holzinger, T. Klüpfel, and J. Williams, Inter-comparison between airborne measurements of methanol, acetonitrile and acetone using two differently configured PTR-MS instruments, *Int. J. Mass Spectrom.*, 239, 129-137, doi: 110.1016/j.ijms.2004.1007.1025, 2004.
- de Gouw, J.A., C. Warneke, D.D. Parrish, J.S. Holloway, M. Trainer, and F.C. Fehsenfeld, Emission sources and ocean uptake of acetonitrile (CH_3CN) in the atmosphere, *J. Geophys. Res.*, 108(D11), doi:10.1029/2002JD002897, 2003.
- de Gouw, J.A., C. Warneke, T. Karl, G. Eerdekkens, C. van der Veen, and R. Fall, Sensitivity and specificity of atmospheric trace gas detection by proton-transfer-reaction mass spectrometry, *Int. J. Mass Spectrom.*, 223-224, 365-382, 2003.
- de Gouw, J.A., P.D. Goldan, C. Warneke, W.C. Kuster, J.M. Roberts, M. Marchewka, S.B. Bertman, A.A.P. Pszenny, and W.C. Keene, Validation of proton transfer reaction-mass spectrometry (PTR-MS) measurements of gas-phase organic compounds in the atmosphere during the New England Air Quality Study (NEAQS) in 2002, *J. Geophys. Res.*, 108(D21), doi:10.1029/2003JD003863, 2003.
- de Reus, M., H. Fischer, F. Arnold, J.A. de Gouw, R. Holzinger, C. Warneke, and J. Williams, On the relationship between acetone and carbon monoxide in air masses of different origin, *Atmos. Chem. Phys.*, 3, 1709-1723, 2003.
- DeMott, P.J., D.J. Cziczo, A.J. Prenni, D.M. Murphy, S.M. Kreidenweis, D.S. Thomson, R. Borys, and D.C. Rogers, Measurements of the concentration and composition of nuclei for cirrus formation, *Proc. Nat. Acad. Sci. U.S.A.*, 100(25), 14655-14660, doi:14610.11073/pnas.2532677100, 2003.
- Desai, A.R., K.J. Davis, C.J. Senff, S. Ismail, E.V. Browell, D.R. Stauffer, and B.P. Reen, A case study on the effects of heterogeneous soil moisture on mesoscale boundary-layer structure in the southern Great Plains, U.S.A. Part I: Simple prognostic model, *Boundary Layer Meteorol.*, 119(2), 195-238, doi:110.1007/s10546-10005-19024-10546, 2006.

- Dhaniyala, S., P.O. Wennberg, R.C. Flagan, D.W. Fahey, M.J. Northway, R.S. Gao, and T.P. Bui, Stratospheric aerosol sampling: Effect of a blunt-body housing on inlet sampling characteristics, *Aerosol Sci. Technol.*, 38, 1080-1090, doi: 1010.1080/027868290885818, 2004.
- Donaldson, D.J., H. Tervahattu, A.F. Tuck, and V. Vaida, Organic aerosols and the origin of life: An hypothesis, *Origins of Life and the Evolution of the Biosphere*, 34, 57-67, 2004.
- Donaldson, D.J., A.F. Tuck, and V. Vaida, Atmospheric photochemistry via vibrational overtone absorption, *Chem. Rev.*, 103(12), 4717-4729, doi:4710.1012/cr0206519, 2003.
- Drobinski, P., P. Carlotti, J.-L. Redelsperger, R.M. Banta, V. Masson, and R.K. Newsom, Numerical and experimental investigation of the neutral atmospheric surface layer, *J. Atmos. Sci.*, 64(1), 137-156, doi:110.1175/JAS3831.1171, 2007.
- Dubé, W.P., S.S. Brown, H.D. Osthoff, M.R. Nunley, S.J. Ciciora, M.W. Paris, R.J. McLaughlin, and A.R. Ravishankara, Aircraft instrument for simultaneous, *in situ* measurement of NO_3 and N_2O_5 via pulsed cavity ring-down spectroscopy, *Review of Scientific Instruments*, 77(034101), doi:10.1063/1061.2176058 2006.
- Dunlea, E.J., R.K. Talukdar, and A.R. Ravishankara, Kinetic studies of the reactions of $\text{O}_2(\text{b}^1\Sigma_g^+)$ with several atmospheric molecules, *J. Phys. Chem. A*, 109, 3912-3920, doi:10.1021/jp044129x, 2005.
- Dunlea, E., and A.R. Ravishankara, Kinetic studies of the reactions of $\text{O}({}^1\text{D})$ with several atmospheric molecules, *Physical Chemistry Chemical Physics*, 6, 2152-2161, doi: 2110.1039/b400247d, 2004.
- Dunlea, E.J., and A.R. Ravishankara, Measurement of the rate coefficient for the reaction of $\text{O}({}^1\text{D})$ with H_2O and re-evaluation of the atmospheric OH production rate, *Physical Chemistry Chemical Physics*, 6, 3333-3340, doi: 3310.1039/b402483d, 2004.
- Dunlea, E.J., A.R. Ravishankara, R.S. Strekowski, J.M. Nicovich, and P.H. Wine, Temperature-dependent quantum yields for $\text{O}({}^3\text{P})$ and $\text{O}({}^1\text{D})$ production from photolysis of O_3 at 248 nm, *Physical Chemistry Chemical Physics*, 6, 5484-5489, doi: 5410.1039/b414326d, 2004.
- Eberhard, W.L., W.A. Brewer, and R.L. Wayson, Lidar observation of jet engine exhaust for air quality, *Bull. Am. Meteorol. Soc.*, 86, 482-483, 2005.
- Eckhardt, S., A. Stohl, H. Wernli, P. James, C. Forster, and N. Spichtinger, A 15-year climatology of warm conveyor belts, *J. Clim.*, 17, 218-237, 2004.
- Eckhardt, S., A. Stohl, S. Beirle, N. Spichtinger, P. James, C. Forster, C. Junker, T. Wagner, U. Platt, and S.G. Jennings, The North Atlantic Oscillation controls air pollution transport to the Arctic, *Atmos. Chem. Phys.*, 3, 1769-1778, 2003.
- Eisele, F., D.D. Davis, D. Helmig, S.J. Oltmans, W. Neff, G. Huey, D. Tanner, G. Chen, J. Crawford, R. Arimoto, M. Buhr, L. Mauldin, M. Hutterli, J. Dibb, D. Blake, S.B. Brooks, B. Johnson, J.M. Roberts, Y. Wang, D. Tan, and F. Flocke, Antarctic Tropospheric Chemistry Investigation (ANTCI) 2003 Overview, *Atmos. Environ.*, 42(12), 2749-2761, doi:2710.1016/j.atmosenv.2007.2704.2013, 2008.
- Eisele, F.L., E.R. Lovejoy, E. Kosciuch, K.F. Moore, R.L. Mauldin, III, J.N. Smith, P.H. McMurry, and K. Lida, Negative atmospheric ions and their potential role in ion induced nucleation, *J. Geophys. Res.*, 111(D04305), doi:10.1029/2005JD006568, 2006.
- Eliason, T.L., S. Aloisio, D.J. Donaldson, D.J. Cziczo, and V. Vaida, Processing of unsaturated organic acid films and aerosols by ozone, *Atmos. Environ.*, 37, 2207-2219, doi:2210.1016/S1352-2310(2203)00149-00143, 2003.
- Emeis, S., M. Harris, and R.M. Banta, Boundary-layer anemometry by optical remote sensing for wind energy applications, *Meteorologische Zeitschrift*, 16(4), 337-347, doi:310.1127/0941-2948/2007/0225, 2007.

Ervens, B., A.G. Carlton, B.J. Turpin, K.E. Altieri, S.M. Kreidenweis, and G. Feingold, Secondary organic aerosol yields from cloud-processing of isoprene oxidation products, *Geophys. Res. Lett.*, 35(L02816), doi:10.1029/2007GL031828, 2008.

Ervens, B., M. Cubison, E. Andrews, G. Feingold, J.A. Ogren, J.L. Jiminez, P. DeCarlo, and A. Nenes, Prediction of cloud condensation nucleus number concentration using measurements of aerosol size distributions and composition and light scattering enhancement due to humidity *J. Geophys. Res.*, 112(D10S32), doi:10.1029/2006JD007426, 2007.

Ervens, B., and S.M. Kreidenweis, SOA formation by biogenic and carbonyl compounds: Data evaluation and application, *Environ. Sci. Technol.*, 41(11), 3904-3910, doi:3910.1021/es061946x, 2007.

Ervens, B., G. Feingold, and S.M. Kreidenweis, Influence of water-soluble organic carbon on cloud drop number concentration, *J. Geophys. Res.*, 110(D18211), doi:10.1029/2004JD005634, 2005.

Ervens, B., G. Feingold, G.J. Frost, and S.M. Kreidenweis, A modeling study of aqueous production of dicarboxylic acids: 1, Chemical pathways and speciated organic mass production, *J. Geophys. Res.*, 109(D15205), doi:10.1029/2003JD004387, 2004.

Eyring, V., N.R.P. Harris, M. Rex, T.G. Shepherd, D.W. Fahey, G.T. Amanatidis, J. Austin, M.P. Chipperfield, M. Dameris, P.M. de F. Forster, A. Gettelman, H.F. Graf, T. Nagashima, P.A. Newman, S. Pawson, M.J. Prather, J.A. Pyle, R.J. Salawitch, B.D. Santer, and D.W. Waugh, A strategy for process-oriented validation of coupled chemistry-climate models, *Bull. Am. Meteorol. Soc.*, 86, 1117-1133, doi:1110.1175/BAMS-1186-1118-1117, 2005.

Fahey, D.W., A.R. Douglass, V. Ramaswamy, and A.-M. Schmoltner, Chapter 4 - How Do Climate Change and Stratospheric Ozone Loss Interact?, in *Trends in Emissions of Ozone-Depleting Substances, Ozone Layer Recovery, and Implications for Ultraviolet Radiation Exposure*, edited by A.R. Ravishankara, M.J. Kurylo and C.A. Ennis, pp. 111-132, Dept. of Commerce, NOAA's National Climate Data Center, Asheville, North Carolina, (2008).

Fahey, D.W., J.H. Churnside, J.W. Elkins, A.J. Gasiewski, K.H. Rosenlof, S. Summers, M. Aslaksen, T.A. Jacobs, J.D. Sellars, C.D. Jennison, L.C. Freudinger, and M. Cooper, Altair unmanned aircraft system achieves demonstration goals, *EOS, Transactions, American Geophysical Union*, 87(20), 197-201, 2006.

Fehsenfeld, F.C., G. Ancellet, T.S. Bates, A.H. Goldstein, R.M. Hardesty, R. Honrath, K.S. Law, A.C. Lewis, R. Leaitch, S. McKeen, J. Meagher, D.D. Parrish, A.A.P. Pszenny, P.B. Russell, H. Schlager, J. Seinfeld, R. Talbot, and R. Zbinden, International Consortium for Atmospheric Research on Transport and Transformation (ICARTT): North America to Europe—Overview of the 2004 summer field study, *J. Geophys. Res.*, 111(D23S01), doi:10.1029/2006JD007829, 2006.

Fehsenfeld, F., D. Hastie, P. Solomon, and J. Chow, Chapter 5, Particle and Gas Measurements, in *Particulate Matter Science for Policy Makers - A NARSTO Assessment*, edited, (2003).

Feierabend, K.J., J.E. Flad, S.S. Brown, and J.B. Burkholder, HCO quantum yields in the photolysis of HC(O)C(O)H (glyoxal) between 290 and 420 nm, *J. Phys. Chem. A, submitted*, 2009.

Feierabend, K.J., L. Zhu, R.K. Talukdar, and J.B. Burkholder, Rate coefficients for the OH + HC(O)C(O)H (glyoxal) reaction between 210 and 390 K, *J. Phys. Chem. A*, 112(1), doi:10.1021/jp0768571, 2008.

Feierabend, K.J., D.K. Havey, S.S. Brown, and V. Vaida, Experimental absolute intensities of the $4v_9$ and $5v_9$ O-H stretching overtones of H_2SO_4 , *Chem. Phys. Lett.*, 420(4-6), 438-442, doi:410.1016/j.cplett.2006.1001.1013, 2006.

Feingold, G., W. Cotton, U. Lohmann, and Z. Levin, Chapter 7: Effects of Pollution Aerosol and Biomass Burning on Clouds and Precipitation: Numerical Modeling Studies, in *Aerosol Pollution Impact on Precipitation: A Scientific Review*, edited by Z. Levin and W.R. Cotton, p. 386, Springer, (2009).

Feingold, G., and H. Siebert, Chapter 14 Cloud-Aerosol Interactions from the Micro to the Cloud Scale, in *Clouds in the Perturbed Climate System*, edited by J. Heintzenberg and R.J. Charlson, p. 576, The MIT Press, Cambridge, (2009).

Feingold, G., R. Furrer, P. Pilewskie, L.A. Remer, Q. Min, and H. Jonsson, Aerosol indirect effect studies at Southern Great Plains during the May 2003 Intensive Operations Period, *J. Geophys. Res.*, 111(D05S14), doi:10.1029/2004JD005648, 2006.

Feingold, G., H. Jiang, and J.Y. Harrington, On smoke suppression of clouds in Amazonia, *Geophys. Res. Lett.*, 32(L02804), doi:10.1029/2004GL021369, 2005.

Ferrare, R., G. Feingold, S. Ghan, J. Ogren, B. Schmid, S.E. Schwartz, and P. Sheridan, Preface to special section: Atmospheric Radiation Measurement Program May 2003 Intensive Operations Period examining aerosol properties and radiative influences, *J. Geophys. Res.*, 111(D05S01), doi:10.1029/2005JD006908, 2006.

Fischer, H., M. de Reus, M. Traub, J. Williams, J. Lelieveld, J.A. de Gouw, C. Warneke, H. Schlager, A. Minikin, R. Scheele, and P. Siegmund, Deep convective injection of boundary layer air into the lowermost stratosphere at midlatitudes, *Atmos. Chem. Phys.*, 3, 739-745, 2003.

Flad, J.E., S.S. Brown, J.B. Burkholder, H. Stark, and A.R. Ravishankara, Absorption cross sections for the $\tilde{\Lambda}^2\text{A}$ ($0,9^0,0$) ${}^2\text{A}$ ($0,0^1,0$) band of the HCO radical, *Physical Chemistry Chemical Physics*, 8, 3636-3642, doi:3610.1039/b607185f, 2006.

Flatau, M.K., P.J. Flatau, J. Schmidt, and G.N. Kiladis, Delayed onset of the 2002 Indian monsoon, *Geophys. Res. Lett.*, 30(14), doi:10.1029/2003GL017434, 2003.

Forster, P.M., G. Bodeker, R. Schofield, S. Solomon, and D. Thompson, Effects of ozone cooling in the tropical lower stratosphere and upper troposphere, *Geophys. Res. Lett.*, 34(L23818), doi:10.1029/2007GL031994, 2007.

Forster, C., O. Cooper, A. Stohl, S. Eckhardt, P. James, E. Dunlea, D.K. Nicks Jr., J.S. Holloway, G. Hübner, D.D. Parrish, T.B. Ryerson, and M. Trainer, Lagrangian transport model forecasts and a transport climatology for the Intercontinental Transport and Chemical Transformation 2002 (ITCT 2K2) measurement campaign, *J. Geophys. Res.*, 109(D07S92), doi:10.1029/2003JD003589, 2004.

Fortin, T.J., B.J. Howard, D.D. Parrish, P.D. Goldan, W.C. Kuster, E.L. Atlas, and R.A. Harley, Temporal changes in U.S. benzene emissions inferred from atmospheric measurements, *Environ. Sci. Technol.*, 39(6), 1403-1408, doi:1410.1021/es049316n, 2005.

Friedlingstein, P., and S. Solomon, Contributions of past and present human generations to committed warming due to carbon dioxide, *Proceedings of the National Academy of Sciences of the United States of America*, 102(31), 10832-10836, doi:10810.11073/pnas.0504755102, 2005.

Froidevaux, L., Y.B. Jiang, A. Lambert, N.J. Livesey, W.G. Read, J.W. Waters, R.A. Fuller, T.P. Marcy, P.J. Popp, R.S. Gao, D.W. Fahey, K.W. Jucks, R.A. Stachnik, G.C. Toon, L.E. Christensen, C.R. Webster, P.F. Bernath, C.D. Boone, K.A. Walker, H.C. Pumphrey, R.S. Harwood, G.L. Manney, M.J. Schwartz, W.H. Daffer, B.J. Drouin, R.E. Cofield, D.T. Cuddy, R.F. Jarnot, B.W. Knosp, V.S. Perun, W.V. Snyder, P.C. Stek, R.P. Thurstans, and P.A. Wagner, Validation of Aura Microwave Limb Sounder HCl measurements, *J. Geophys. Res.*, 113(D15S25), doi:10.1029/2007JD009025, 2008.

Frost, G.J., S.A. McKeen, M. Trainer, T.B. Ryerson, J.A. Neuman, J.M. Roberts, A. Swanson, J.S. Holloway, D.T. Sueper, T. Fortin, D.D. Parrish, F.C. Fehsenfeld, F. Flocke, S.E. Peckham, G.A. Grell, D. Kowal, J. Cartwright, N. Auerbach, and T. Habermann, Effects of changing power plant NO_x emissions on ozone in the eastern United States: Proof of concept, *J. Geophys. Res.*, 111(D12306), doi:10.1029/2005JD006354, 2006.

Froyd, K.D., D.M. Murphy, T.J. Sanford, D. Thomson, J. Wilson, G. Pfister, and L. Lait, Aerosol composition of the

- tropical upper troposphere, *Atmos. Chem. Phys., submitted*, 2009.
- Froyd, K.D., and E.R. Lovejoy, Experimental thermodynamics of cluster ions composed of H₂SO₄ and H₂O. 1. Positive Ions, *J. Phys. Chem. A*, **107**, 9812-9824, doi:9810.1021/jp027803o, 2003.
- Fry, J.L., A. Kiendler-Scharr, A.W. Rollins, P.J. Wooldridge, S.S. Brown, H. Fuchs, W.P. Dubé, A. Mensah, M. dal Maso, R. Tillmann, H.-P. Dorn, T. Brauers, and R.C. Cohen, Organic nitrate and secondary organic aerosol yield from NO₃ oxidation of β-pinene evaluated using a gas-phase kinetics/aerosol partitioning model, *Atmos. Chem. Phys.*, **9**(4), 1431-1449, 2009.
- Fu, Q., S. Solomon, and P. Lin, On the seasonal dependence of tropical lower-stratospheric temperature trends, *Geophys. Res. Lett., submitted*, 2009.
- Fuchs, H., W.P. Dubé, B. Lerner, N. Wagner, E. Williams, and S.S. Brown, A small sensitive detector of atmospheric NO₂ and NO_x using diode laser based on cavity ring down spectroscopy at 404 nm, *Environ. Sci. Technol., submitted*, 2009.
- Fuchs, H., W.P. Dubé, S.J. Ciciora, and S.S. Brown, Determination of inlet transmission and conversion efficiencies for in situ measurements of the nocturnal nitrogen oxides, NO₃, N₂O₅ and NO₂, via pulsed cavity ring-down spectroscopy, *Anal. Chem.*, **80**, 6010-6017, doi:6010.1021/ac2007253, 2008.
- Gage, K.S., W.L. Clark, C.R. Williams, and A. Tokay, Determining reflectivity measurement error from serial measurements using paired disdrometers and profilers, *Geophys. Res. Lett.*, **31**(L23107), doi:10.1029/2004GL020591, 2004.
- Gage, K.S., Dynamical processes contributing to the mesoscale spectrum of atmospheric motions, in *Atmospheric turbulence and mesoscale meteorology*, edited by E. Fedorovich, R. Rotunno and B. Stevens, Cambridge University Press, Cambridge, (2004).
- Gage, K.S., and E.E. Gossard, Recent developments in observations, modeling and understanding atmospheric turbulence and waves in radar and atmospheric science: A collection of essays in honor of David Atlas, R.M. Wakimoto and R. Srivastava, *Meteorological Monographs*, **30**, 139-174, 2003.
- Gallar, C., C.A. Brock, J.-L. Jimenez, and C. Simons, A variable supersaturation condensation particle sizer, *Aerosol Sci. Technol.*, **40**(6), doi:10.1080/02786820600643339, 2006.
- Gallavardin, S.J., K.D. Froyd, U. Lohmann, O. Moehler, D.M. Murphy, and D.J. Cziczo, Single particle laser mass spectrometry applied to differential ice nucleation experiments at the AIDA Chamber, *Aerosol Sci. Technol.*, **42**, 773-791, doi:710.1080/02786820802339538, 2008.
- Gao, R.S., S.R. Hall, W.H. Swartz, J.P. Schwarz, J.R. Spackman, L.A. Watts, D.W. Fahey, K.C. Aikin, R.E. Shetter, and T.P. Bui, Calculations of solar shortwave heating rates due to black carbon and ozone absorption using in situ measurements, *J. Geophys. Res.*, **113**(D14203), doi:10.1029/2007JD009358, 2008.
- Gao, R.S., J.P. Schwarz, K.K. Kelly, D.W. Fahey, L.A. Watts, T.L. Thompson, J.R. Spackman, J.G. Slowik, E.S. Cross, J.-H. Han, P. Davidovits, T.B. Onasch, and D.R. Worsnop, A novel method for estimating light-scattering properties of soot aerosols using a modified single-particle soot photometer, *Aerosol Sci. Technol.*, **41**(2), 125-135, doi:110.1080/02786820601118398, 2007.
- Gao, R.S., D.W. Fahey, P.J. Popp, T.P. Marcy, R.L. Herman, E.M. Weinstock, J.B. Smith, D.S. Sayres, J.V. Pittman, K.H. Rosenlof, T.L. Thompson, P.T. Bui, D.G. Baumgardner, B.E. Anderson, G. Kok, and A.J. Weinheimer, Measurements of relative humidity in a persistent contrail, *Atmos. Environ.*, **40**(9), 1590-1600, doi:1510.1016/j.atmosenv.2005.1511.1021, 2006.
- Gao, R.S., P.J. Popp, D.W. Fahey, T.P. Marcy, R.L. Herman, E.M. Weinstock, D.G. Baumgardner, T.J. Garrett, K.H. Rosenlof, T.L. Thompson, T.P. Bui, B.A. Ridley, S.C. Wofsy, O.B. Toon, M.A. Tolbert, B. Kärcher, T. Peter, P.K. Hudson, A.J. Weinheimer, and A.J. Heymsfield, Evidence that nitric acid increases relative

- humidity in low-temperature cirrus clouds, *Science*, 303, 516-520, 2004.
- Garland, R.M., A.R. Ravishankara, E.R. Lovejoy, M.A. Tolbert, and T. Baynard, Parameterization for the relative humidity dependence of light extinction: Organic-ammonium sulfate aerosol, *J. Geophys. Res.*, 112(D19303), doi:10.1029/2006JD008179, 2007.
- Garrett, T.J., L. Avey, P.I. Palmer, A. Stohl, J.A. Neuman, C.A. Brock, T.B. Ryerson, and J.S. Holloway, Quantifying wet scavenging processes in aircraft observations of nitric acid and cloud condensation nuclei, *J. Geophys. Res.*, 111(D23S51), doi:10.1029/2006JD007416, 2006.
- Gensch, I.V., H. Bunz, D.G. Baumgardner, L.E. Christensen, D.W. Fahey, R.L. Herman, P.J. Popp, J.B. Smith, R.F. Troy, C.R. Webster, E.M. Weinstock, J.C. Wilson, T. Peter, and M. Krämer, Supersaturations, microphysics and nitric acid partitioning in a cold cirrus cloud observed during CR-AVE 2006: An observation-modelling intercomparison study, *Environ. Res. Lett.*, 3(035003), doi:10.1088/1748-9326/3/035003, 2008.
- Gettelman, A., E.M. Weinstock, E.J. Fetzer, F.W. Irion, A. Eldering, E.C. Richard, K.H. Rosenlof, T.L. Thompson, J.V. Pittman, C.R. Webster, and R.L. Herman, Validation of Aqua satellite data in the upper troposphere and lower stratosphere with in situ aircraft instruments, *Geophys. Res. Lett.*, 31(L22107), doi:10.1029/2004GL020730, 2004.
- Geyer, A., B. Aliche, R. Ackermann, M. Martinez, H. Harder, W. Brune, P. di Carlo, E. Williams, T. Jobson, S. Hall, R. Shetter, and J. Stutz, Direct observations of daytime NO_3 : Implications for urban boundary layer chemistry, *J. Geophys. Res.*, 108(D12), doi:10.1029/2002JD002967, 2003.
- Gierczak, T., B. Rajakumar, J.E. Flad, and J.B. Burkholder, Rate coefficients for the reaction of the acetyl radical, CH_3CO , with Cl_2 between 253 and 384 K, *Int. J. Chem. Kin.*, in press, 2009.
- Gierczak, T., J.B. Burkholder, and A.R. Ravishankara, Rate coefficients for the reaction of OH with OCIO between 242 and 392 K, *Int. J. Chem. Kin.*, 38(4), 234-241, doi:210.1002/kin.20158, 2006.
- Gierczak, T., E. Jiménez, V. Riffault, J.B. Burkholder, and A.R. Ravishankara, Thermal decomposition of HO_2NO_2 (Peroxynitric Acid, PNA): Rate coefficient and determination of the enthalpy of formation, *J. Phys. Chem. A*, 109(4), 586-596, doi:510.1021/jp046632f, 2005.
- Gierczak, T., M.K. Gilles, S. Bauerle, and A.R. Ravishankara, Reaction of hydroxyl radical with acetone. 1. Kinetics of the reactions of OH, OD, and ^{18}OH with acetone and acetone- d_6 , *J. Phys. Chem. A*, 107(25), 5014-5020, doi:10.1021/jp027301a, 2003.
- Gilman, J.B., W.C. Kuster, P.D. Goldan, S.C. Herndon, M.S. Zahniser, S.C. Tucker, W.A. Brewer, B.M. Lerner, E.J. Williams, R.A. Harley, F.C. Fehsenfeld, C. Warneke, and J.A. de Gouw, Measurements of volatile organic compounds during the 2006 TexAQS/GoMACCS campaign: industrial influences, regional characteristics, and diurnal dependencies of the OH reactivity, *J. Geophys. Res.*, 114(D00F06), doi:10.1029/2008JD011525, 2009.
- Goldan, P.D., W.C. Kuster, E. Williams, P.C. Murphy, F.C. Fehsenfeld, and J. Meagher, Nonmethane hydrocarbon and oxy hydrocarbon measurements during the 2002 New England Air Quality Study, *J. Geophys. Res.*, 109(D21309), doi:10.1029/2003JD004455, 2004.
- Goldstein, A.H., D.B. Millet, M. McKay, L. Jaeglé, L. Horowitz, O. Cooper, R. Hudman, D.J. Jacob, S. Oltmans, and A. Clarke, Impact of Asian emissions on observations at Trinidad Head, California, during ITCT 2K2, *J. Geophys. Res.*, 109(D23S17), doi:10.1029/2003JD004406, 2004.
- Granier, C., U. Niemeier, J.H. Jungclaus, L. Emmons, P. Hess, J.-F. Lamarque, S. Walters, and G.P. Brasseur, Ozone pollution from future ship traffic in the Arctic northern passages, *Geophys. Res. Lett.*, 33(L13807), doi:10.1029/2006GL026180, 2006.
- Granier, C., P. Artaxo, and C.E. Reeves, *Emissions of Atmospheric Trace Compounds*, Kluwer Academic

Publishers, The Netherlands, 2004.

Granier, C., and G.P. Brasseur, The impact of road traffic on global tropospheric ozone, *Geophys. Res. Lett.*, 30(2), 1086, doi:10.1029/2002GL015972, 2003.

Grell, G.A., S.E. Peckham, R. Schmitz, S.A. McKeen, G. Frost, W.C. Skamarock, and B. Eder, Fully coupled "online" chemistry within the WRF model, *Atmos. Environ.*, 39(37), 6957-6975, doi:10.1016/j.atmosenv.2005.6904.6027, 2005.

Grell, G.A., R. Knoche, S.E. Peckham, and S.A. McKeen, Online versus offline air quality modeling on cloud-resolving scales, *Geophys. Res. Lett.*, 31(L16117), doi:10.1029/2004GL020175, 2004.

Haag, W., B. Kärcher, J. Ström, A. Minikin, U. Lohmann, J. Ovarlez, and A. Stohl, Freezing thresholds and cirrus cloud formation mechanisms inferred from in situ measurements of relative humidity, *Atmos. Chem. Phys.*, 3, 1791-1806, 2003.

Haertel, P.T., and G.N. Kiladis, Dynamics of 2-day equatorial waves, *J. Atmos. Sci.*, 61, 2707-2721, 2004.

Hales, J., G. Hidy, S. Falke, C. Kolb, D. Parrish, J. Szykman, and A. Werner, Chapter 6 - Innovative Technologies and Applications, in *Improving Emission Inventories for Effective Air Quality Management Across North America - A NARSTO Assessment*, edited by T.N.E.I.A. Team, pp. 153-195, (2005).

Hanson, D.R., and E.R. Lovejoy, Measurement of the thermodynamics of the hydrated dimer and trimer of sulfuric acid, *J. Phys. Chem. A*, 110(31), 9525-9528, doi:10.1021/jp062844w, 2006.

Hardesty, R.M., and L.S. Darby, Part 5: Remote Sensing: Chapter 48: Ground-based and Airborne Lidar, in *Encyclopedia of Hydrological Sciences*, edited by J.J.M.A.E. M.G. Anderson (Editor-in-Chief), p. 3456, Wiley, (2005).

Hartten, L.M., and P.A. Datulayta, Seasonal and interannual variations in the daily cycle of winds over the Galápagos, *J. Clim.*, 17, 4522-4530, 2004.

Harwood, M.H., J.M. Roberts, G.J. Frost, A.R. Ravishankara, and J.B. Burkholder, Photochemical studies of $\text{CH}_3\text{C}(\text{O})\text{OONO}_2$ (PAN) and $\text{CH}_3\text{CH}_2\text{C}(\text{O})\text{OONO}_2$ (PPN): NO_3 quantum yields, *J. Phys. Chem. A*, 107, 1148-1154, doi:10.1021/jp0264230, 2003.

Hawes, A.K., S. Solomon, R.W. Portmann, J.S. Daniel, A.O. Langford, H.L. Miller, C.S. Eubank, P. Goldan, C. Wiedinmyer, E. Atlas, A. Hansel, and A. Wisthaler, Airborne observations of vegetation and implications for biogenic emission characterization, *Journal of Environmental Monitoring*, 5, 977-983, doi:10.1039/b308911h, 2003.

Heald, C.L., A.H. Goldstein, J.D. Allan, A.C. Aiken, E. Apel, E.L. Atlas, A.K. Baker, T.S. Bates, A.J. Beyersdorf, D.R. Blake, T. Campos, H. Coe, J.D. Crounse, P.F. DeCarlo, J.A. de Gouw, E.J. Dunlea, F.M. Flocke, A. Fried, P. Goldan, R.J. Griffin, S.C. Herndon, J.S. Holloway, R. Holzinger, J.L. Jimenez, W. Junkermann, W.C. Kuster, A.C. Lewis, S. Meinardi, D.B. Millet, T. Onasch, A. Polidori, P.K. Quinn, D.D. Riemer, J.M. Roberts, D. Salcedo, B. Sive, A.L. Swanson, R. Talbot, C. Warneke, R.J. Weber, P. Weibring, P.O. Wennberg, D.R. Worsnop, A.E. Wittig, R. Zhang, J. Zheng, and W. Zheng, Total Observed Organic Carbon (TOOC): A synthesis of North American observations, *Atmos. Chem. Phys.*, 8(7), 2007-2025, 2008.

Heald, C.L., A.H. Goldstein, J.D. Allan, A.C. Aiken, E. Apel, E.L. Atlas, A.K. Baker, T.S. Bates, A.J. Beyersdorf, D.R. Blake, T. Campos, H. Coe, J.D. Crounse, P.F. DeCarlo, J.A. de Gouw, E.J. Dunlea, F.M. Flocke, A. Fried, P. Goldan, R.J. Griffin, S.C. Herndon, J.S. Holloway, R. Holzinger, J.L. Jimenez, W. Junkermann, W.C. Kuster, A.C. Lewis, S. Meinardi, D.B. Millet, T. Onasch, A. Polidori, P.K. Quinn, D.D. Riemer, J.M. Roberts, D. Salcedo, B. Sive, A.L. Swanson, R. Talbot, C. Warneke, R.J. Weber, P. Weibring, P.O. Wennberg, D.R. Worsnop, A.E. Wittig, R. Zhang, J. Zheng, and W. Zheng, Total Observed Organic Carbon (TOOC): A synthesis of North American observations, *Atmos. Chem. Phys. Disc.*, 7(6), 17825-17871, 2007.

Heald, C.L., D.J. Jacob, S. Turquety, R.C. Hudman, R.J. Weber, A.P. Sullivan, R.E. Peltier, E.L. Atlas, J.A. de Gouw, C. Warneke, J.S. Holloway, J.A. Neuman, F.M. Flocke, and J.H. Seinfeld, Concentrations and sources of organic carbon aerosols in the free troposphere over North America, *J. Geophys. Res.*, 111(D23S47), doi:10.1029/2006JD007705, 2006.

Helmig, D., D.M. Tanner, R.E. Honrath, R.C. Owen, and D.D. Parrish, Nonmethane hydrocarbons at Pico Mountain, Azores: 1, Oxidation chemistry in the North-Atlantic region, *J. Geophys. Res.*, 113(D20S91), doi:10.1029/2007JD008930, 2008.

Henne, S., M. Furger, S. Nyeki, M. Steinbacher, B. Neininger, S.F.J. deWekker, J. Dommen, N. Spichtinger, A. Stohl, and A. Prévôt, Quantification of topographic venting of boundary layer air to the free troposphere, *Atmos. Chem. Phys.*, 3, 5205-5236, 2003.

Herman, R.L., K. Drdla, J.R. Spackman, D.F. Hurst, P.J. Popp, C.R. Webster, P.A. Romashkin, J.W. Elkins, E.M. Weinstock, B.W. Gandrud, G.C. Toon, M.R. Schoeberl, H. Jost, E.L. Atlas, and T.P. Bui, Hydration, dehydration, and the total hydrogen budget of the 1999/2000 winter Arctic stratosphere, *J. Geophys. Res.*, 108(D5), doi:10.1029/2001JD001257, 2003.

Herndon, S.C., T.B. Onasch, E.C. Wood, J.H. Kroll, M.R. Canagaratna, J.T. Jayne, M.A. Zavala, W.B. Knighton, C. Mazzoleni, M.K. Dubey, I.M. Ulbrich, J.L. Jimenez, R. Seila, J. de Gouw, B. de Foy, J. Fast, L.T. Molin, C.E. Kolb, and D.R. Worsnop, Correlation of secondary organic aerosol with odd oxygen in Mexico City, *Geophys. Res. Lett.*, 35(L15804), doi:10.1029/2008GL034058, 2008.

Herndon, S.C., M.S. Zahniser, D.D. Nelson, Jr., J. Shorter, J.B. McManus, R. Jiménez, C. Warneke, and J.A. de Gouw, Airborne measurements of HCHO and HCOOH during the New England Air Quality Study 2004 using a pulsed quantum cascade laser spectrometer, *J. Geophys. Res.*, 112(D10S03), doi:10.1029/2006JD007600, 2007.

Herndon, S.C., and A.R. Ravishankara, Kinetics of the reaction of SH and SD with NO₂, *J. Phys. Chem. A*, 110(1), 106-113, doi:10.1021/jp053918r, 2006.

Hill, A.A., G. Feingold, and H. Jiang, The influence of mixing on the climate forcing of non-precipitating marine stratocumulus, *J. Atmos. Sci.*, in press, 2009.

Hill, R.J., W.A. Brewer, and S.C. Tucker, Platform-motion correction of velocity measured by Doppler Lidar, *Journal of Atmospheric and Oceanic Technology*, 25, 1369-1382, doi:10.1175/2007JTECHA1972.1361, 2008.

Hoelzemann, J.J., M.G. Schultz, G.P. Brasseur, and C. Granier, Global wildland fire emission model (GWEM): Evaluating the use of global area burnt satellite data, *J. Geophys. Res.*, 109(D14S04), doi:10.1029/2003JD003666, 2004.

Hofzumahaus, A., B.L. Lefer, P.S. Monks, S.R. Hall, A. Kylling, B. Mayer, R.E. Shetter, W. Junkermann, A. Bais, J.G. Calvert, C.A. Cantrell, S. Madronich, G.D. Edwards, A. Kraus, M. Müller, B. Bohn, R. Schmitt, P. Johnston, R. McKenzie, G.J. Frost, E. Griffioen, M. Krol, T. Martin, G. Pfister, E.P. Röth, A. Ruggaber, W.H. Swartz, S.A. Lloyd, and M. Van Weele, Photolysis frequency of O₃ to O(¹D): Measurements and modeling during the International Photolysis Frequency Measurement and Modeling Intercomparison (IPMMI), *J. Geophys. Res.*, 109(D08S90), doi:10.1029/2003JD004333, 2004.

Honrath, R.E., D. Helmig, R.C. Owen, D.D. Parrish, and D.M. Tanner, Non-methane hydrocarbons at Pico Mountain, Azores: 2, Event-specific analyses of the impacts of mixing and photochemistry on hydrocarbon ratios, *J. Geophys. Res.*, 113(D20S92), doi:10.1029/2008JD009832, 2008.

Horowitz, L.W., S. Walters, D.L. Mauzeral, L.K. Emmons, P.J. Rasch, C. Granier, X. Tie, J.-F. Lamarque, S. M.G., G.S. Tyndall, J.J. Orlando, and G.P. Brasseur, A global simulation of tropospheric ozone and related tracers: Description and evaluation of MOZART, version 2, *J. Geophys. Res.*, 108(D24), 4784,

doi:10.1029/2002JD002853, 2003.

Houze, R.A., Jr., S. Brodzik, C. Schumacker, S.E. Yuter, and C.R. Williams, Uncertainties in oceanic radar rain maps at Kwajalein and implications for satellite validation, *Journal of Applied Meteorology*, 43, 1114-1132, 2004.

Hovde, S.J., A.F. Tuck, S. Lovejoy, and D. Schertzer, Vertical scaling of the atmosphere: Dropsondes from 13 km to the surface, *Quart. J. Roy. Meteorol. Soc.*, submitted, 2009.

Hudman, R.C., D.J. Jacob, S. Turquety, E.M. Leibensperger, L.T. Murray, S. Wu, A.B. Gilliland, M. Avery, T.H. Bertram, W. Brune, R.C. Cohen, J.E. Dibb, F.M. Flocke, A. Fried, J. Holloway, J.A. Neuman, R. Orville, A. Perring, X. Ren, G.W. Sachse, H.B. Singh, A. Swanson, and P.J. Wooldridge, Surface and lightning sources of nitrogen oxides over the United States: Magnitudes, chemical evolution, and outflow, *J. Geophys. Res.*, 112(D12S05), doi:10.1029/2006JD007912, 2007.

Hudman, R.C., D.J. Jacob, O.R. Cooper, M.J. Evans, C.L. Heald, R.J. Park, F. Fehsenfeld, F. Flocke, J. Holloway, G. Hübner, K. Kita, M. Koike, Y. Kondo, A. Neuman, J. Nowak, S. Oltmans, D. Parrish, J.M. Roberts, and T. Ryerson, Ozone production in transpacific Asian pollution plumes and implications for ozone air quality in California, *J. Geophys. Res.*, 109(D23S10), doi:10.1029/2004JD004974, 2004.

Hudson, P.K., D.M. Murphy, D.J. Cziczo, D.S. Thomson, J.A. de Gouw, C. Warneke, J. Holloway, H.-J. Jost, and G. Hübner, Biomass-burning particle measurements: Characteristic composition and chemical processing, *J. Geophys. Res.*, 109(D23S27), doi:10.1029/2003JD004398, 2004.

Huntrieser, H., J. Heland, H. Schlager, C. Forster, A. Stohl, H. Aufmhoff, F. Arnold, H.E. Scheel, M. Campana, S. Gilge, R. Eixmann, and O. Cooper, Intercontinental air pollution transport from North America to Europe: Experimental evidence from airborne measurements and surface observations, *J. Geophys. Res.*, 110(D01305), doi:10.1029/2004JD005045, 2005.

Jacob, D.J., B.D. Field, Q. Li, D.R. Blake, J. de Gouw, C. Warneke, A. Hansel, A. Wisthaler, H.B. Singh, and A. Guenther, Global budget of methanol: Constraints from atmospheric observations, *J. Geophys. Res.*, 110(D08303), doi: 10.1029/2004JD005172, 2005.

Jaffe, D., J. Snow, and O. Cooper, The 2001 Asian dust events: Transport and impact on surface aerosol concentrations in the U.S., *EOS, Transactions, American Geophysical Union*, 84(46), 501-507, 2003.

Jaffe, D., H. Price, D.D. Parrish, A. Goldstein, and J. Harris, Increasing background ozone during spring on the west coast of North America, *Geophys. Res. Lett.*, 30(12), doi:10.1029/2003GL017024, 2003.

James, P., A. Stohl, N. Spichtinger, S. Eckhardt, and C. Forster, Climatological aspects of the extreme European rainfall of August 2002 and a trajectory method for estimating the associated evaporative source regions, *Natural Hazards and Earth System Sciences*, 4, 733-746, SRef-ID: 1684-9981/nhess/2004-1684-1733, 2004.

Jensen, E.J., J.B. Smith, L. Pfister, J.V. Pittman, E.M. Weinstock, D.S. Sayres, R.L. Herman, R.F. Troy, K.H. Rosenlof, T.L. Thompson, A.M. Fridlind, P.K. Hudson, D.J. Cziczo, A.J. Heymsfield, C. Schmitt, and J.C. Wilson, Ice supersaturations exceeding 100% at the cold tropical tropopause: Implications for cirrus formation and dehydration, *Atmos. Chem. Phys.*, 5(4), 851-886, doi:1680-7324/acp/2005-1685-1851, 2005.

Jiang, H., G. Feingold, and I. Koren, Effect of aerosol on cumulus cloud morphology, *J. Geophys. Res.*, in press, 2009.

Jiang, H., G. Feingold, H.H. Jonsson, M.-L. Lu, P.Y. Chuang, R.C. Flagan, and J.H. Seinfeld, Statistical comparison of properties of simulated and observed cumulus clouds in the vicinity of Houston during the Gulf of Mexico Atmospheric Composition and Climate Study (GoMACCS), *J. Geophys. Res.*, 113(D13205), doi:10.1029/2007JD009304, 2008.

Jiang, H., H. Xue, A. Teller, G. Feingold, and Z. Levin, Aerosol effects on the lifetime of shallow cumulus,

- Geophys. Res. Lett.*, 33(L14806), doi:10.1029/2006GL026024, 2006.
- Jiang, H., and G. Feingold, Effect of aerosol on warm convective clouds: Aerosol-cloud-surface flux feedbacks in a new coupled large eddy model, *J. Geophys. Res.*, 111(D01202), doi:10.1029/2005JD006138, 2006.
- Jiménez, E., T. Gierczak, H. Stark, J.B. Burkholder, and A.R. Ravishankara, Quantum yields of OH, HO₂, and NO₃ in the UV photolysis of HO₂NO₂, *Physical Chemistry Chemical Physics*, 7, 342-348, doi:10.1039/b413429j, 2005.
- Jiménez, E., T. Gierczak, H. Stark, J.B. Burkholder, and A.R. Ravishankara, Reaction of OH with HO₂NO₂ (Peroxynitric Acid): Rate coefficients between 218 and 335 K and product yields at 298 K, *J. Phys. Chem. A*, 108, 1139-1149, doi:10.1101/1102/jp0363489, 2004.
- Jiménez, E., M.K. Gilles, and A.R. Ravishankara, Kinetics of the reactions of the hydroxyl radical with CH₃OH and C₂H₅OH between 235 and 360 K, *Journal of Photochemistry and Photobiology A: Chemistry*, 157, 237-245, doi:10.1016/S1010-6030(00)0073-X, 2003.
- Jobson, B.T., B. C.M., W.C. Kuster, P.D. Goldan, E.J. Williams, F.C. Fehsenfeld, E.C. Apel, K. T., W.A. Lonneman, and D. Riemer, Hydrocarbon source signatures in Houston, Texas: Influence of the petrochemical industry, *J. Geophys. Res.*, 109(D24305), doi:10.1029/2004JD004887, 2004.
- Jones, G.V., M.A. White, O.R. Cooper, and K. Storchmann, Climate change and global wine quality, *Clim. Change*, 73(3), 319-343, doi:10.1007/s10584-10005-14704-10582, 2005.
- Jost, H.-J., K. Drdla, A. Stohl, L. Pfister, M. Loewenstein, J.P. Lopez, P.K. Hudson, D.M. Murphy, D.J. Cziczo, M. Fromm, T.P. Bui, J. Dean-Day, C. Gerbig, M.J. Mahoney, E.C. Richard, N. Spichtinger, J.V. Pittman, E.M. Weinstock, J.C. Wilson, and I. Xueref, In-situ observations of mid-latitude forest fire plumes deep in the stratosphere, *Geophys. Res. Lett.*, 31(L11101), doi:10.1029/2003GL019253, 2004.
- Karl, T., F. Harren, C. Warneke, J. de Gouw, C. Grayless, and R. Fall, Senescent grass crops as regional sources of reactive volatile organic compounds, *J. Geophys. Res.*, 110(D15302), doi: 10.1029/2005JD005777, 2005.
- Karl, T., T. Jobson, W.C. Kuster, E. Williams, J. Stutz, R. Shetter, S.R. Hall, P. Goldan, F. Fehsenfeld, and W. Lindinger, Use of proton-transfer-reaction mass spectrometry to characterize volatile organic compound sources at the La Porte super site during the Texas Air Quality Study 2000, *J. Geophys. Res.*, 108(D16), doi:10.1029/2002JD003333, 2003.
- Kaspers, K.A., R.S.W. van de Wal, J.A. de Gouw, C.M. Hofstede, M.R. van den Broeke, C. van der Veen, R.E.M. Neubert, H.A.J. Meijer, C.A.M. Brenninkmeijer, L. Karlöf, and J.-G. Winther, Analyses of firn gas samples from Dronning Maud Land, Antarctica: Study of nonmethane hydrocarbons and methyl chloride, *J. Geophys. Res.*, 109(D02307), doi:10.1029/2003JD003950, 2004.
- Kaspers, K.A., R.S.W. van de Wal, J.A. de Gouw, C.M. Hofstede, M.R. van den Broeke, C.H. Reijmer, C. van der Veen, R.E.M. Neubert, H.A.J. Meijer, C.A.M. Brenninkmeijer, L. Karlöf, and J.-G. Winther, Seasonal cycles of nonmethane hydrocarbons and methyl chloride, as derived from firn air from Dronning Maud Land, Antarctica, *J. Geophys. Res.*, 109(D16306), doi:10.1029/2004JD004629, 2004.
- Kazil, J., E.R. Lovejoy, E.J. Jensen, and D.R. Hanson, Is aerosol formation in cirrus clouds possible?, *Atmos. Chem. Phys.*, 7(5), 1407-1413, 2007.
- Kazil, J., and E.R. Lovejoy, A semi-analytical method for calculating rates of new sulfate aerosol formation from the gas phase, *Atmos. Chem. Phys.*, 7, 3447-3459, 2007.
- Kazil, J., E.R. Lovejoy, M.C. Barth, and K. O'Brien, Aerosol nucleation over oceans and the role of galactic cosmic rays, *Atmos. Chem. Phys.*, 6(12), 4905-4924, 2006.
- Kazil, J., E.R. Lovejoy, E.J. Jensen, and D.R. Hanson, Is aerosol formation in cirrus clouds possible?, *Atmos. Chem. Phys.*

Chem. Phys. Disc., 6(6), 12179-12197, 2006.

Kazil, J., and E.R. Lovejoy, Tropospheric ionization and aerosol production: A model study, *J. Geophys. Res.*, 109(D19206), doi:10.1029/2004JD004852, 2004.

Keeley, S.P.E., N.P. Gilette, D.W.J. Thompson, S. Solomon, and P.M.D. Forster, Is Antarctic climate most sensitive to ozone depletion in the middle or lower stratosphere?, *Geophys. Res. Lett.*, 34(L22812), doi:10.1029/2007GL031238, 2007.

Kemball-Cook, S., D. Parrish, T. Ryerson, U. Nopmongcol, J. Johnson, E. Tai, and G. Yarwood, Contributions of regional transport and local sources to ozone exceedances in Houston and Dallas: Comparison of results from a photochemical grid model to aircraft and surface measurements, *J. Geophys. Res.*, 114(D00F02), doi:10.1029/2008JD010248, 2009.

Kiemle, C., W.A. Brewer, G. Ehret, R.M. Hardesty, A. Fix, C. Senff, M. Wirth, G. Poberaj, and M.A. LeMone, Latent heat flux profiles from collocated airborne water vapor and wind lidars during IHOP 2002, *Journal of Atmospheric and Oceanic Technology*, 24(4), 627-639, doi:610.1175/JTECH1997.1171, 2007.

Kiladis, G.N., K.H. Straub, and P.T. Haertel, Zonal and vertical structure of the Madden-Julian oscillation, *J. Atmos. Sci.*, 62(8), 2790-2809, doi:2710.1175/JAS3520.2791, 2005.

Kim, S.-W., A. Heckel, G. Frost, A. Richter, J. Gleason, J.P. Burrows, S. McKeen, E.-Y. Hsie, C. Granier, and M. Trainer, NO₂ columns in the western U.S. observed from space and simulated by a regional chemistry model and their implications for NO_x emissions, *J. Geophys. Res.*, In press, 2009.

Kim, S.-W., C.-H. Moeng, J.C. Weil, and M.C. Barth, Comment on "Fumigation of pollutants in and above the entrainment zone into a growing convective boundary layer: A large-eddy simulation", *Atmos. Environ.*, 41(35), 7679-7682, doi:7610.1016/j.atmosenv.2007.7607.7017, 2007.

Kim, C.-H., S.M. Kreidenweis, G. Feingold, K.G. Anlauf, and W.R. Leaitch, Measurement and interpretation of cloud effects on the concentrations of hydrogen peroxide and organoperoxides over Ontario, Canada, *Atmos. Res.*, 81(2), 140-149, doi:110.1016/j.atmosres.2005.1011.1009, 2006.

Kim, S.-W., A. Heckel, S.A. McKeen, G.J. Frost, E.-Y. Hsie, M.K. Trainer, A. Richter, J.P. Burrows, S.E. Peckham, and G.A. Grell, Satellite-observed U.S. power plant NO_x emission reductions and their impact on air quality, *Geophys. Res. Lett.*, 33(L22812), doi:10.1029/2006GL027749, 2006.

Kinnison, D.E., J. Gille, J. Barnett, C. Randall, V.L. Harvey, A. Lambert, R. Khosravi, M.J. Alexander, P.F. Bernath, C.D. Boone, C. Cavanaugh, M. Coffey, C. Craig, V.C. Dean, T. Eden, D. Ellis, D.W. Fahey, G. Francis, C. Halvorson, J. Hannigan, C. Hartsough, C. Hepplewhite, C. Krinsky, H. Lee, B. Mankin, T.P. Marcy, S. Massie, B. Nardi, D. Packman, P.J. Popp, M.L. Santee, V. Yudin, and K.A. Walker, Global observations of HNO₃ from the High Resolution Dynamics Limb Sounder (HIRDLS): First results, *J. Geophys. Res.*, 113(D16S44), doi:10.1029/2007JD008814, 2008.

Kita, K., Y. Morino, Y. Kondo, Y. Komazaki, N. Takegawa, Y. Miyazaki, J. Hirokawa, S. Tanaka, T.L. Thompson, R.-S. Gao, and D.W. Fahey, A chemical ionization mass spectrometer for ground-based measurements of nitric acid, *Journal of Atmospheric and Oceanic Technology*, 23(8), doi:1110.1175/JTECH1900.1101, 2006.

Ko, M., J.S. Daniel, J.R. Herman, P.A. Newman, and V. Ramaswamy, Chapter 5 - The Future and Recovery, in *Trends in Emissions of Ozone-Depleting Substances, Ozone Layer Recovery, and Implications for Ultraviolet Radiation Exposure*, edited by A.R. Ravishankara, M.J. Kurylo and C.A. Ennis, pp. 133-154, Dept. of Commerce, NOAA's National Climate Data Center, Asheville, North Carolina, (2008).

Koch, S.E., B.D. Jamison, C. Lu, T.L. Smith, E.I. Tollerud, C. Girz, N. Wang, T.P. Lane, M.A. Shapiro, D.D. Parrish, and O.R. Cooper, Turbulence and gravity waves within an upper-level front, *J. Atmos. Sci.*, 62(11), 3885-3908, doi:3810.1175/JAS3574.3881, 2005.

- Koch, L.C., P. Marshall, and A.R. Ravishankara, An investigation of the reaction of CH₃S with CO, *J. Phys. Chem. A*, 108(24), 5205-5212, doi:5210.1012/jp049193t, 2004.
- Koehler, K.A., S.M. Kreidenweis, P.J. DeMott, A.J. Prenni, C.M. Carrico, B. Ervens, and G. Feingold, Water activity and activation diameters from hygroscopicity data. Part II: Application to organic species, *Atmos. Chem. Phys.*, 6(3), 795-809, 2006.
- Kokhanovsky, A.A., V.V. Rozanov, T. Nauss, C. Reudenach, J.S. Daniel, H.L. Miller Jr., and J.P. Burrows, The semianalytical cloud retrieval algorithm for SCIAMACHY I. The validation, *Atmos. Chem. Phys.*, 6(7), 1905-1911, 2006.
- Kokhanovsky, A.A., V.V. Rozanov, T. Nauss, C. Reudenach, J.S. Daniel, H.L. Miller, and J.P. Burrows, The semianalytical cloud retrieval algorithm for SCIAMACHY: I, The validation, *Atmos. Chem. Phys.*, 5, 1995-2015, 2005.
- Kolb, C., D. Mobley, J. Hales, D. Parrish, and A. Werner, Chapter 2 - Vision for future North American emission inventory programs, in *Improving Emission Inventories for Effective Air Quality Management Across North America - A NARSTO Assessment*, edited by T.N.E.I.A. Team, pp. 29-52, (2005).
- Konopka, P., J.-U. Groß, G. Günther, D.S. McKenna, R. Müller, J.W. Elkins, D. Fahey, and P. Popp, Weak impact of mixing on chlorine deactivation during SOLVE/THESEO 2000: Lagrangian modeling (CLaMS) versus ER-2 in situ observations, *J. Geophys. Res.*, 108(D5), doi:10.1029/2001JD000876, 2003.
- Koren, I., G. Feingold, H. Jiang, and O. Altaratz, Aerosol effects on the inter-cloud region of a small cumulus cloud field, *Geophys. Res. Lett.*, submitted, 2009.
- Koren, I., O. Altaratz, G. Feingold, Z. Levin, and T. Reisin, Cloud's center of gravity – A compact approach to analyze convective cloud development, *Atmos. Chem. Phys.*, 9(1), 115-161, 2009.
- Koren, I., L. Oreopoulos, G. Feingold, L.A. Remer, and O. Altaratz, How small is a small cloud?, *Atmos. Chem. Phys.*, 8(3855-3864), 2008.
- Kormann, R., H. Fischer, M. de Reus, M.G. Lawrence, C. Brühl, R. von Kuhlmann, R. Holzinger, J. Williams, J. Lelieveld, C. Warneke, J.A. de Gouw, J. Heland, H. Ziereis, and H. Schlager, Formaldehyde over the eastern Mediterranean during MINOS: Comparison of airborne in-situ measurements with 3D-model results, *Atmos. Chem. Phys.*, 3, 851-861, 2003.
- Kovacs, T.A., W.H. Brune, H. Harder, M. Martinez, J.B. Simpas, G.J. Frost, E.J. Williams, T. Jobson, C. Stroud, V.L. Young, A. Fried, and B. Wert, Direct measurements of urban OH reactivity during Nashville SOS in summer 1999, *Journal of Environmental Monitoring*, 5, 68-74, doi:10.1039/b204339d, 2003.
- Krämer, M., C. Schiller, C. Voigt, H. Schlager, and P.J. Popp, A climatological view of HNO₃ partitioning in cirrus clouds, *Quart. J. Roy. Meteorol. Soc.*, 134, 905-912, doi:10.1002/qj.253, 2008.
- Krasnoperov, L.N., E.N. Chesnokov, H. Stark, and A.R. Ravishankara, Unimolecular dissociation of formyl radical, HCO->H + CO, studied over 1-100 bar pressure range, *J. Phys. Chem. A*, 108, 11526-11536, doi:11510.11021/jp0403994, 2004.
- Kreidenweis, S.M., K. Koehler, P.J. DeMott, A.J. Prenni, C. Carrico, and B. Ervens, Water activity and activation diameters from hygroscopicity data, *Atmos. Chem. Phys.*, 5(5), 1357-1370, 2005.
- Kuester, M.A., M.J. Alexander, and E.A. Ray, A model study of gravity waves over Hurricane Humberto (2001), *J. Atmos. Sci.*, 65, 3231-3245, doi:10.1175/2008JAS2372.1, 2008.
- Kuster, W.C., F.J.M. Harren, and J.A. de Gouw, Inter-comparison of laser photoacoustic spectroscopy and gas chromatography techniques for measurements of ethene in the atmosphere, *Environ. Sci. Technol.*, 39(12), 4581-4585, doi:4510.1021/es0504385, 2005.

- Kuster, W.C., B.T. Jobson, T. Karl, D. Riemer, E.C. Apel, P.D. Goldan, and F.C. Fehsenfeld, Intercomparison of volatile organic carbon measurement techniques and data at La Porte during the TexAQS2000 Air Quality Study, *Environ. Sci. Technol.*, 38(1), 221-228, doi: 210.1021/es034710r, 2004.
- Lack, D.A., J.J. Corbett, T.B. Onasch, B. Lerner, P. Massoli, P.K. Quinn, T.S. Bates, D.S. Covert, D. Coffman, B. Sierau, S. Herndon, J. Allan, T. Baynard, E. Lovejoy, A.R. Ravishankara, and E. Williams, Particulate emissions from commercial shipping: Chemical, physical, and optical properties, *J. Geophys. Res.*, 114(D00F04), doi:10.1029/2008JD011300, 2009.
- Lack, D.A., C.D. Cappa, D.S. Covert, T. Baynard, P. Massoli, B. Sierau, T.S. Bates, P.K. Quinn, E.R. Lovejoy, and A.R. Ravishankara, Bias in filter-based aerosol light absorption measurements due to organic aerosol loading: Evidence from ambient measurements, *Aerosol Sci. Technol.*, 42, 1033-1041, doi:10.1080/02786820802389277, 2008.
- Lack, D., B. Lerner, C. Granier, T. Baynard, E.R. Lovejoy, P. Massoli, A.R. Ravishankara, and E.J. Williams, Light absorbing carbon emissions from commercial shipping, *Geophys. Res. Lett.*, 35(L13815), doi:10.1029/GL2008GL033906, 2008.
- Lack, D.A., E.R. Lovejoy, T. Baynard, A. Pettersson, and A.R. Ravishankara, Aerosol absorption measurement using photoacoustic spectroscopy: Sensitivity, calibration and uncertainty developments, *Aerosol Sci. Technol.*, 40(9), 697-708, doi:610.1080/02786820600803917, 2006.
- Lamarque, J.F., and S. Solomon, Identifying the role of vertical velocity trends in explaining tropical lower stratospheric trends in ozone, *Journal of Physical Chemistry A, Geophysical Research Letters*, submitted, 2008.
- Lamarque, J.-F., J.T. Kiehl, G.P. Brasseur, T. Butler, P. Cameron-Smith, W.D. Collins, W.J. Collins, C. Granier, D. Hauglustaine, P.G. Hess, E.A. Holland, L. Horowitz, M.G. Lawrence, D. McKenna, P. Merilees, M.J. Prather, P.J. Rasch, D. Rotman, D. Shindell, and P. Thornton, Assessing future nitrogen deposition and carbon cycle feedback using a multimodel approach: Analysis of nitrogen deposition, *J. Geophys. Res.*, 110(D19303), doi:10.1029/2005JD005825, 2005.
- Lamarque, J.-F., P. Hess, L. Emmons, L. Buja, W. Washington, and C. Granier, Tropospheric ozone evolution between 1890 and 1990, *J. Geophys. Res.*, 110(D08304), doi:10.1029/JD005537, 2005.
- Langford, A.O., C. Senff, R. Banta, M. Hardesty, R.J. Alvarez II, S.P. Sandberg, and L.S. Darby, Regional and local background ozone in Houston during TexAQS 2006, *J. Geophys. Res.*, in press, doi:10.1029/2008JD11687, 2009.
- Langford, A.O., K.C. Aikin, C.S. Eubank, and B.J. Williams, Stratospheric contribution to high surface ozone in Colorado during springtime, *Geophys. Res. Lett.*, submitted, 2009.
- Langford, A.O., R. Schofield, J.S. Daniel, R.W. Portmann, M.L. Melamed, H.L. Miller Jr., E.G. Dutton, and S. Solomon, On the variability of the Ring effect in the near ultraviolet: Understanding the role of aerosols and multiple scattering, *Atmos. Chem. Phys.*, 7(3), 575-586, 2007.
- Langford, A.O., R.W. Portmann, J.S. Daniel, H.L. Miller, C.S. Eubank, S. Solomon, and E.G. Dutton, Retrieval of ice crystal effective diameters from ground-based near-infrared spectra of optically thin cirrus, *J. Geophys. Res.*, 110(D22201), doi:10.1029/2005JD005761, 2005.
- Langford, A.O., R.W. Portmann, J.S. Daniel, H.L. Miller, and S. Solomon, Spectroscopic measurements of NO₂ in a Colorado thunderstorm: Determination of the mean production by cloud-to-ground lightning flashes, *J. Geophys. Res.*, 109(D11304), doi:10.1029/2003JD004158, 2004.
- Lee, D.S., D. Fahey, P.M. Forster, P.J. Newton, R.C.N. Wit, L.L. Lim, B. Owen, and R. Sausen, Aviation and global climate change in the 21st century, *Atmos. Environ.*, in press, 2009.

- Lee, Y.S., D.R. Collins, R. Li, K.P. Bowman, and G. Feingold, Expected impact of an aged biomass burning aerosol on cloud condensation nuclei and cloud droplet concentrations, *J. Geophys. Res.*, 111(D22204), doi:10.1029/2005JD006464, 2006.
- Lee, S.-H., D.M. Murphy, D.S. Thomson, and A.M. Middlebrook, Nitrate and oxidized organic ions in single particle mass spectra during the 1999 Atlanta Supersite Project, *J. Geophys. Res.*, 108(D7), doi:10.1029/2001JD001455, 2003.
- Leibrock, E., L.G. Huey, P.D. Goldan, W.C. Kuster, E. Williams, and F.C. Fehsenfeld, Ground-based intercomparison of two isoprene measurement techniques, *Atmos. Chem. Phys.*, 3, 67-72, 2003.
- Li, Q., D.J. Jacob, J.W. Munger, R.M. Yantosca, and D.D. Parrish, Export of NO_y from the North American boundary layer: Reconciling aircraft observations and global model budgets, *J. Geophys. Res.*, 109(D02313), doi:10.1029/2003JD004086, 2004.
- Liebmann, B., G.N. Kiladis, C.S. Vera, A.C. Saulo, and L.M.V. Carvalho, Subseasonal variations of rainfall in South America in the vicinity of the low-level jet east of the Andes and comparison to those in the south Atlantic convergence zone, *J. Clim.*, 17, 3829-3842, 2004.
- Liu, Y., M. Shao, W.C. Kuster, P.D. Goldan, X. Li, S. Lu, and J.A. de Gouw, Source identification of reactive hydrocarbons and oxygenated VOCs in the summertime in Beijing, *Environ. Sci. Technol.*, 43(1), doi:10.1012/es801716n, 2009.
- Livesey, N.J., M.J. Filipiak, L. Froidevaux, W.G. Read, A. Lambert, M.L. Santee, J.H. Jiang, H.C. Pumphrey, J.W. Waters, R.E. Cofield, D.T. Cuddy, W.H. Daffer, B.J. Drouin, R.A. Fuller, R.F. Jarnot, Y.B. Jiang, B.W. Knosp, Q.B. Li, V.S. Perun, M.J. Schwartz, W.V. Snyder, P.C. Stek, R.P. Thurstans, P.A. Wagner, M. Avery, E.V. Browell, J.-P. Cammas, L.E. Christensen, G.S. Diskin, R.-S. Gao, H.-J. Jost, M. Loewenstein, J.D. Lopez, P. Nedelec, G.B. Osterman, G.W. Sachse, and C.R. Webster, Validation of Aura Microwave Limb Sounder O₃ and CO observations in the upper troposphere and lower stratosphere, *J. Geophys. Res.*, 113(D15S02), doi:10.1029/2007JD008805, 2008.
- Lovejoy, S., A.F. Tuck, S.J. Hovde, and D. Schertzer, Reinterpreting aircraft measurements in anisotropic scaling turbulence, *Atmos. Chem. Phys. Disc.*, 9, 1-50, 2009.
- Lovejoy, S., A.F. Tuck, S.J. Hovde, and D. Schertzer, Vertical cascade structure of the atmosphere and multifractal dropsonde outages, *J. Geophys. Res.*, 114(D07111), doi:10.1029/2008JD010651, 2009.
- Lovejoy, S., A.F. Tuck, S.J. Hovde, and D. Schertzer, Do stable atmospheric layers exist?, *Geophys. Res. Lett.*, 35(L01802), doi:10.1029/2007GL032122, 2008.
- Lovejoy, S., A.F. Tuck, S.J. Hovde, and D. Schertzer, Is isotropic turbulence relevant in the atmosphere?, *Geophys. Res. Lett.*, 34(L15802), doi:1029.2007GL029359, 2007.
- Lovejoy, E.R., J. Curtius, and K.D. Froyd, Atmospheric ion-induced nucleation of sulphuric acid and water, *J. Geophys. Res.*, 109(D08204), doi:10.1029/2003JD004460, 2004.
- Lovejoy, S., D. Schertzer, and A.F. Tuck, Fractal aircraft trajectories and nonclassical turbulent exponents, *Physical Review E*, 70, doi:doi:10.1103/PhysRevE.70.036306, 2004.
- Lu, M.-L., G. Feingold, H.H. Jonsson, P.Y. Chuang, H. Gates, R.C. Flagan, and J.H. Seinfeld, Aerosol-cloud relationships in continental shallow cumulus, *J. Geophys. Res.*, 113(D15201), doi:10.1029/2007JD009354, 2008.
- Machol, J.L., R.D. Marchbanks, C.J. Senff, B.J. McCarty, W.L. Eberhard, W.A. Brewer, R.A. Richter, R.J. Alvarez, III, D.C. Law, A.M. Weickmann, and S.P. Sandberg, Scanning tropospheric ozone and aerosol lidar with double-gated photomultipliers, *Appl. Opt.*, 48(3), 512-524, 2009.

- Machol, J.L., T. Ayers, K.T. Schwenz, K.W. Koenig, R.M. Hardesty, C.J. Senff, M.A. Krainak, J.B. Abshire, H.E. Bravo, and S.P. Sandberg, Preliminary measurements with an automated compact differential absorption lidar for the profiling of water vapor: Errata, *Appl. Opt.*, 45(15), 3544-3544, 2006.
- Majda, A.J., B. Khouider, G.N. Kiladis, K.H. Straub, and M.G. Shefter, A model for convectively coupled tropical waves: Nonlinearity, rotation, and comparison with observations, *J. Atmos. Sci.*, 61, 2188-2205, 2004.
- Marcolli, C.A., M.R. Canagaratna, D.R. Worsnop, R. Bahreini, J.A. de Gouw, C. Warneke, P.D. Goldan, W.C. Kuster, E.J. Williams, B.M. Lerner, J.M. Roberts, J.F. Meagher, F.C. Fehsenfeld, L. Marchewka, S.M. Bertman, and A.M. Middlebrook, Cluster analysis of the organic peaks in bulk mass spectra obtained during the 2002 New England Air Quality Study with an Aerodyne aerosol mass spectrometer, *Atmos. Chem. Phys.*, 6(12), 5649-5666, 2006.
- Marcy, T.P., P.J. Popp, R.S. Gao, D.W. Fahey, E.A. Ray, E.C. Richard, T.L. Thompson, E.L. Atlas, M. Loewenstein, S.C. Wofsy, S. Park, E.M. Weinstock, W.H. Swartz, and M.J. Mahoney, Measurements of trace gases in the tropical tropopause layer, *Atmos. Environ.*, 41(34), 7253-7261, doi:7210.1016/j.atmosenv.2007.7205.7032, 2007.
- Marcy, T.P., R.S. Gao, M.J. Northway, P.J. Popp, H. Stark, and D.W. Fahey, Using chemical ionization mass spectrometry for detection of HNO_3 , HCl , and ClONO_2 in the atmosphere, *Int. J. Mass Spectrom.*, 243, 63-70, doi:10.1016/j.ijms.2004.1011.1012, 2005.
- Marcy, T.P., D.W. Fahey, R.S. Gao, P.J. Popp, E.C. Richard, T.L. Thompson, K.H. Rosenlof, E.A. Ray, R.J. Salawitch, C.S. Atherton, D.J. Bergmann, B.A. Ridley, A.J. Weinheimer, M. Loewenstein, E.M. Weinstock, and M.J. Mahoney, Quantifying stratospheric ozone in the upper troposphere with in situ measurements of HCl , *Science*, 304, 261-265, 2004.
- Martin, R.V., C.E. Sioris, K. Chance, T.B. Ryerson, T.H. Bertram, P.J. Wooldridge, R.C. Cohen, J.A. Neuman, A. Swanson, and F.M. Flocke, Evaluation of space-based constraints on global nitrogen oxide emissions with regional aircraft measurements over and downwind of eastern North America, *J. Geophys. Res.*, 111(D15308), doi:10.1029/2005JD006680, 2006.
- Martin, R.V., D.D. Parrish, T.B. Ryerson, D.K. Nicks, Jr., K. Chance, T.P. Kurosu, D.J. Jacob, E.D. Sturges, A. Fried, and B.P. Wert, Evaluation of GOME satellite measurements of tropospheric NO_2 and HCHO using regional data from aircraft campaigns in the southeastern United States, *J. Geophys. Res.*, 109(D24307), doi:10.1029/2004JD004869, 2004.
- Martinez, M., H. Harder, T.A. Kovacs, J.B. Simpas, J. Bassis, R. Lesher, W.H. Brune, G.J. Frost, E.J. Williams, C.A. Stroud, B.T. Jobson, J.M. Roberts, S.R. Hall, R.E. Shetter, B. Wert, A. Fried, B. Aliche, J. Stutz, V.L. Young, A.B. White, and R.J. Zamora, OH and HO_2 concentrations, sources and loss rates during the Southern Oxidants Study in Nashville, TN, summer 1999, *J. Geophys. Res.*, 108(D19), 4617, doi:4610.1029/2003JD003551, 2003.
- Massoli, P., T.S. Bates, P.K. Quinn, D. Lack, T. Baynard, B. Lerner, S.C. Tucker, J. Brioude, A. Stohl, and E. Williams, Aerosol optical and hygroscopic properties during TexAQS GoMACCS 2006 and their impact on aerosol direct radiative forcing, *J. Geophys. Res.*, submitted, 2009.
- Massoli, P., D.M. Murphy, D. Lack, T. Baynard, C. Brock, and E.R. Lovejoy, Uncertainty in light scattering measurements by TSI nephelometer: 1, Results from laboratory studies and implications for ambient measurements, *Aerosol Sci. Technol.*, submitted, 2009.
- Matthew, B.M., A.M. Middlebrook, and B. Onasch, Collection efficiencies in an aerodyne aerosol mass spectrometer as a function of particle phase for laboratory generated aerosols, *Aerosol Sci. Technol.*, 42(11884-11898, doi:10.1080/02786820802356797), 2008.
- McCabe, D.C., I.W.M. Smith, B. Rajakumar, and A.R. Ravishankara, Rate coefficients for the relaxation of OH (v

= 1) by O₂ at temperatures from 204-371 K and by N₂O from 243-372 K, *Chem. Phys. Lett.*, 421(1-3), 111-117, doi:10.1016/j.cplett.2006.1001.1037, 2006.

McCabe, D.C., B. Rajakumar, P. Marshall, I.W.M. Smith, and A.R. Ravishankara, The relaxation of OH (v= 1) and OD (v = 1) by H₂O and D₂O at temperatures from 251 to 390 K, *Physical Chemistry Chemical Physics*, 8(39), 4563-4574, doi:4510.1039/b609330b, 2006.

McCabe, D.C., S.S. Brown, M.K. Gilles, R.K. Talukdar, I.W.M. Smith, and A.R. Ravishankara, Kinetics of the removal of OH(v=1) and OD(v=1) by HNO₃ and DNO₃ from 253 to 383K, *J. Phys. Chem. A*, 107(39), 7762-7769, doi:7710.1021/jp0346413, 2003.

McCaffery, S.J., S.A. McKeen, E.-Y. Hsie, D.D. Parrish, O.R. Cooper, J.S. Holloway, G. Hübler, F.C. Fehsenfeld, and M. Trainer, A case study of stratosphere-troposphere exchange during the 1996 North Atlantic Regional Experiment, *J. Geophys. Res.*, 109(D14103), doi:10.1029/2003JD004007, 2004.

McComiskey, A., G. Feingold, A.S. Frisch, D.D. Turner, M.A. Miller, J.C. Chiu, Q. Min, and J.A. Ogren, An assessment of aerosol-cloud interactions in marine stratus clouds based on surface remote sensing, *J. Geophys. Res.*, *in press*, 2009.

McComiskey, A., and G. Feingold, Quantifying error in the radiative forcing of the first aerosol indirect effect, *Geophys. Res. Lett.*, 35(L02810), doi:10.1029/2007GL032667, 2008.

McFiggans, G., P. Artaxo, U. Baltensperger, H. Coe, M.C. Facchini, G. Feingold, S. Fuzzi, M. Gysel, A. Laaksonen, U. Lohmann, T.F. Mentel, D.M. Murphy, C.D. O'Dowd, J.R. Snider, and E. Weingartner, The effect of physical and chemical aerosol properties on warm cloud droplet activation, *Atmos. Chem. Phys.*, 6(9), 2593-2649, 2006.

McFiggans, G., P. Artaxo, U. Baltensperger, H. Coe, M.C. Facchini, G. Feingold, S. Fuzzi, M. Gysel, A. Laaksonen, U. Lohmann, T.F. Mentel, D.M. Murphy, C.D. O'Dowd, J.R. Snider, and E. Weingartner, The effect of physical and chemical aerosol properties on warm cloud droplet activation, *Atmos. Chem. Phys. Disc.*, 5(5), 8507-8646, 2005.

McKeen, S., G. Grell, S. Peckham, J. Wilczak, I. Djalalova, E.-Y. Hsie, G. Frost, J. Peischl, J.P. Schwarz, J.R. Spackman, A. Middlebrook, J. Holloway, J. de Gouw, C. Warneke, W. Gong, V. Bouchet, S. Gadreault, J. Racine, J. McHenry, J. McQueen, P. Lee, Y. Tang, G. Carmichael, and R. Mathur, An evaluation of real-time air quality forecasts and their urban emissions over eastern Texas during the summer of 2006 TexAQS field study, *J. Geophys. Res.*, *in press*, 2009.

McKeen, S., S.H. Chung, J. Wilczak, G. Grell, I. Djalalova, S. Peckham, W. Gong, V. Bouchet, R. Moffet, Y. Tang, G.R. Carmichael, R. Mathur, and S. Yu, Evaluation of several PM_{2.5} forecast models using data collected during the ICARTT/NEAQS 2004 field study, *J. Geophys. Res.*, 112(D10S20), doi:10.1029/2006JD007608, 2007.

McKeen, S., J. Wilczak, G. Grell, I. Djalalova, S. Peckham, E.-Y. Hsie, W. Gong, V. Bouchet, S. Menard, R. Moffet, J. McHenry, J. McQueen, Y. Tang, G.R. Carmichael, M. Pagowski, A. Chan, T. Dye, G. Frost, P. Lee, and R. Mathur, Assessment of an ensemble of seven real-time ozone forecasts over eastern North America during the summer of 2004, *J. Geophys. Res.*, 110(D21307), doi:10.1029/2005JD005858, 2005.

McKinney, K.A., P.O. Wennberg, S. Dhaniyala, D.W. Fahey, M.J. Northway, K.F. Künzi, A. Kleinböhl, M. Sinnhuber, H. Küllmann, H. Bremer, M.J. Mahoney, and T.P. Bui, Trajectory studies of large HNO₃-containing PSC particles in the Arctic: Evidence for the role of NAT, *Geophys. Res. Lett.*, 31(L05110), doi:10.1029/2003GL018430, 2004.

McMurry, P.H., M. Fink, H. Sakurai, M.R. Stolzenburg, R.L. Mauldin, III, J. Smith, F. Eisele, K. Moore, S. Sjostedt, D. Tanner, L.G. Huey, J.B. Nowak, E. Edgerton, and D. Voisin, A criterion for new particle formation in the sulfur-rich Atlanta atmosphere, *J. Geophys. Res.*, 110(D22S02), doi:10.1029/2005JD005901, 2005.

Melamed, M.L., A.O. Langford, J.S. Daniel, R.W. Portmann, H.L. Miller, C.S. Eubank, R. Schofield, J. Holloway, and S. Solomon, Sulfur dioxide emission flux measurements from point sources using airborne near ultraviolet spectroscopy during the New England Air Quality Study 2004, *J. Geophys. Res.*, 113(D02305), doi:10.1029/2007JD008923, doi:10.1029/2007JD008923, 2008.

Melamed, M.L., S. Solomon, J.S. Daniel, A.O. Langford, R.W. Portmann, T.B. Ryerson, D.K. Nicks, Jr., and S.A. McKeen, Measuring reactive nitrogen emissions from point sources using visible spectroscopy from aircraft, *Journal of Environmental Monitoring*, 5, 29-34, doi:10.1039/b204220g, 2003.

Mena-Carrasco, M., Y. Tang, G.R. Carmichael, T. Chai, N. Thongbongchoo, J.E. Campbell, S. Kulkarni, L. Horowitz, J. Vukovich, M. Avery, W. Brune, J.E. Dibb, L. Emmons, F. Flocke, G.W. Sachse, D. Tan, R. Shetter, R.W. Talbot, D.G. Streets, G.J. Frost, and D. Blake, Improving regional ozone modeling through systematic evaluation of errors using the aircraft observations during the International consortium for Atmospheric Research on Transport and Transformation, *J. Geophys. Res.*, 112(D12S19), doi:10.1029/2006JD007762, 2007.

Ménard, R., S. Édouard, S. Houweling, G. Pétron, C. Granier, and C. Reeves, Data Assimilation and Inverse Methods, in *Emissions of Atmospheric Trace Compounds*, edited by C. Granier, P. Artaxo and C.E. Reeves, pp. 427-476, Kluwer Academic Publishers, Dordrecht, The Netherlands, (2004).

Methven, J., S.R. Arnold, A. Stohl, M.J. Evans, M. Avery, K. Law, A.C. Lewis, P.S. Monks, D.D. Parrish, C.E. Reeves, H. Schlager, E. Atlas, D.R. Blake, H. Coe, J. Crosier, F.M. Flocke, J.S. Holloway, J.R. Hopkins, J. McQuaid, R. Purvis, B. Rappenglück, H.B. Singh, N.M. Watson, L.K. Whalley, and P.I. Williams, Establishing Lagrangian connections between observations within air masses crossing the Atlantic during the International Consortium for Atmospheric Research on Transport and Transformation experiment, *J. Geophys. Res.*, 111(D23S62), doi:10.1029/2006JD007540, 2006.

Middlebrook, A.M., D.M. Murphy, S.-H. Lee, D.S. Thomson, K.A. Prather, R.J. Wenzel, D.-Y. Liu, D.J. Phares, K.P. Rhoads, A.S. Wexler, M.V. Johnston, J.L. Jimenez, J.T. Jayne, D.R. Worsnop, I. Yourshaw, J.H. Seinfeld, and R.C. Flagan, A comparison of particle mass spectrometers during the 1999 Atlanta Supersite Project, *J. Geophys. Res.*, 108(D7), doi:10.1029/2001JD000660, 2003.

Miller, C.A., G. Hidy, J. Hales, C.E. Kolb, A.S. Werner, B. Haneke, D. Parrish, H.C. Frey, L. Rojas-Bracho, M. Deslauriers, W. Pennell, and J.D. Mobley, Air emission inventories in North America: A critical assessment, *Journal of the Air & Waste Management Association*, 56, 1115-1129, 2006.

Miller, A., C.a.t.N.E.I.S. Committee, and D. Parrish, contributing chapter lead author, Chapter 9 - Recommendations and Conclusions, in *Improving Emission Inventories for Effective Air Quality Management Across North America, - A NARSTO Assessment*, edited, pp. 243-256, The NARSTO Emission Inventory Assessment Team, (2005).

Millet, D.B., A.H. Goldstein, R. Holzinger, B.J. Williams, J.D. Allan, J.L. Jiménez, D.R. Worsnop, J.M. Roberts, A.B. White, R.C. Hudman, I.T. Bertschi, and A. Stohl, Chemical characteristics of North American surface layer outflow: Insights from Chebogue Point, Nova Scotia, *J. Geophys. Res.*, 111(D23S53), doi:10.1029/2006JD007287, 2006.

Min, P., Q. Fu, S. Solomon, and J.M. Wallace, Temperature trend patterns in Southern Hemisphere high latitudes: Novel indicators of stratospheric change, *J. Clim.*, submitted, 2009.

Minschwaner, K., T. Carty, and C.R. Burnett, Hydroxyl column abundance measurements: PEPSIOS instrumentation at the Fritz Peak Observatory and data analysis techniques, *Journal of Atmospheric and Solar-Terrestrial Physics*, 65, 335-344, doi:310.1016/S1364-6826(1002)00297-00293, 2003.

Modgil, M.S., S. Kumar, S.N. Tripathi, and E.R. Lovejoy, A parameterization of ion-induced nucleation of sulphuric acid and water for atmospheric conditions, *J. Geophys. Res.*, 110(D19205), doi:1029/2004JD005475, 2005.

Monks, P.S., C. Granier, S. Fuzzi, A. Stohl, M. Williams, H. Akimoto, M. Amman, A. Baklanov, U. Baltensperger, I. Bey, N. Blake, R.S. Blake, K. Carslaw, O.R. Cooper, F. Dentener, E. Fragkou, G. Frost, S. Generoso, P. Giroux, V. Grewe, A. Guenther, H.C. Hansson, S. Henne, J. Hjorth, A. Hofzumahaus, H. Huntrieser, M.E. Jenkin, J. Kaiser, M. Kanakidou, Z. Klimont, M. Kulmala, M.G. Lawrence, J.D. Lee, C. Liousse, G. McFiggans, A. Metzger, A. Mieville, N. Moussiopoulos, J.J. Orlando, P.I. Palmer, D. Parrish, A. Petzold, U. Platt, U. Poeschl, A.S.H. Prévôt, C.E. Reeves, S. Reiman, Y. Rudich, K. Sellegri, R. Steinbrecher, D. Simpson, H. ten Brink, J. Theloke, G. van der Werf, R. Vautard, V. Vestreng, C. Vlachokostas, and R. von Glasow, Atmospheric composition change – Global and regional air quality, *Atmos. Environ.*, submitted, 2009.

Montzka, S.A., J.S. Daniel, J. Cohen, and K. Vick, Chapter 2 - Current Trends, Mixing Ratios, and Emissions of Ozone-Depleting Substances and Their Substitutes, in *Trends in Emissions of Ozone-Depleting Substances, Ozone Layer Recovery, and Implications for Ultraviolet Radiation Exposure*, edited by A.R. Ravishankara, M.J. Kurylo and C.A. Ennis, pp. 29-78, Dept. of Commerce, NOAA's National Climate Data Center, Asheville, North Carolina, (2008).

Moore, F.L., J.W. Elkins, E.A. Ray, G.S. Dutton, R.E. Dunn, D.W. Fahey, R.J. McLaughlin, T.L. Thompson, P.A. Romashkin, D.F. Hurst, and P.R. Wamsley, Balloonborne in situ gas chromatograph for measurements in the troposphere and stratosphere, *J. Geophys. Res.*, 108(D5), doi:10.1029/2001JD000891, 2003.

Murphy, D.M., Effect of stratospheric aerosols on direct sunlight and implications for concentrating solar power, *Environ. Sci. Technol.*, 43(6), doi:10.1021/es802206b, 2009.

Murphy, D.M., The effect of water evaporation on photoacoustic signals in transition and molecular flow, *Aerosol Sci. Technol.*, 43, 356-363, doi:10.1080/02786820802657392, 2009.

Murphy, D.M., S.L. Capps, J.S. Daniel, G.J. Frost, and W.H. White, Weekly patterns of aerosol in the United States, *Atmos. Chem. Phys.*, 8, 2729-2739, 2008.

Murphy, D.M., D.J. Cziczo, P.K. Hudson, and D.S. Thomson, Carbonaceous material in aerosol particles in the lower stratosphere and tropopause region, *J. Geophys. Res.*, 112(D04203), doi:10.1029/2006JD007297, 2007.

Murphy, D.M., The design of single particle mass spectrometers, *Mass Spectrometry Reviews*, 26(2), 150-165, doi:10.1002/mas.20113, 2007.

Murphy, D.M., P.K. Hudson, D.J. Cziczo, S. Gallavardin, K.D. Froyd, M.V. Johnston, A.M. Middlebrook, M.S. Reinard, D.S. Thomson, T. Thornberry, and A.S. Wexler, Distribution of lead in single atmospheric particles, *Atmos. Chem. Phys.*, 7(12), 3195-3210, 2007.

Murphy, D.M., P.K. Hudson, D.S. Thomson, P.J. Sheridan, and J.C. Wilson, Observations of mercury-containing aerosols, *Environ. Sci. Technol.*, 40(10), 3163-3167, doi:3110.1021/es052385x, 2006.

Murphy, D.M., D.J. Cziczo, K.D. Froyd, P.K. Hudson, B.M. Matthew, A.M. Middlebrook, R.E. Peltier, A. Sullivan, D.S. Thomson, and R.J. Weber, Single-particle mass spectrometry of tropospheric aerosol particles, *J. Geophys. Res.*, 111(D23S32), doi:10.1029/2006JD007340, 2006.

Murphy, D.M., and T. Koop, Review of the vapour pressures of ice and supercooled water for atmospheric applications, *Quart. J. Roy. Meteorol. Soc.*, 131(Part B), 1539-1565, doi:1510.1256/qj.1504.1594, 2005.

Murphy, D.M., Something in the air, *Science*, 307(5717), 1888-1890, doi:1810.1126/science.1108160, 2005.

Murphy, D.M., D.J. Cziczo, P.K. Hudson, M.E. Schein, and D.S. Thomson, Particle density inferred from simultaneous optical and aerodynamic diameters sorted by composition, *J. Aero. Sci.*, 35, 135-139, doi:110.1016/S0021-8502(1003)00386-00380, 2004.

Murphy, D.M., D.J. Cziczo, P.K. Hudson, D.S. Thomson, J.C. Wilson, T. Kojima, and P.R. Buseck, Particle generation and resuspension in aircraft inlets when flying in clouds, *Aerosol Sci. Technol.*, 38, 400-408,

doi:410.1080/02786820490443094, 2004.

Murphy, D.M., A.M. Middlebrook, and M. Warshawsky, Cluster analysis of data from the Particle Analysis by Laser Mass Spectrometry (PALMS) instrument, *Aerosol Sci. Technol.*, 37, 382-391, doi:310.1080/02786820390125241, 2003.

Murphy, D.M., Dehydration in cold clouds is enhanced by a transition from cubic to hexagonal ice, *Geophys. Res. Lett.*, 30(23), doi:10.1093/2003GL018566, 2003.

Myhre, G., T.F. Berglen, M. Johnsrud, C.R. Hoyle, T.K. Bernsten, S.A. Christopher, D.W. Fahey, I.S.A. Isaksen, T.A. Jones, R.A. Kahn, N. Loeb, P. Quinn, L. Remer, J.P. Schwarz, and K.E. Yttri, Modelled radiative forcing of the direct aerosol effect using a multi-observation evaluation, *Atmos. Chem. Phys.*, 9, 1365-1392, 2009.

Neiman, P.J., F.M. Ralph, A.B. White, D.D. Parrish, J.S. Holloway, and D.L. Bartels, A multiwinter analysis of channeled flow through a prominent gap along the northern California coast during CALJET and PACJET, *Mon. Wea. Rev.*, 134(7), doi:1810.1175/MWR3148.1811, 2006.

Neuman, J.A., J.B. Nowak, W. Zheng, F. Flocke, T.B. Ryerson, M. Trainer, J. Holloway, D. Parrish, G. Frost, J. Peischl, E.L. Atlas, A. Middlebrook, R. Bahreini, A. Wollny, and F. Fehsenfeld, Relationship between photochemical ozone production and NO_x oxidation in Houston, Texas, *J. Geophys. Res.*, *in press*, 2009.

Neuman, J.A., D.D. Parrish, M. Trainer, T.B. Ryerson, J.S. Holloway, J.B. Nowak, A. Swanson, F. Flocke, J.M. Roberts, S.S. Brown, H. Stark, R. Sommariva, A. Stohl, R. Peltier, R. Weber, A.G. Wollny, D.T. Sueper, G. Hübler, and F.C. Fehsenfeld, Reactive nitrogen transport and photochemistry in urban plumes over the North Atlantic Ocean, *J. Geophys. Res.*, 111(D23S54), doi:10.1029/2005JD007010, 2006.

Neuman, J.A., D.D. Parrish, T.B. Ryerson, C.A. Brock, C. Wiedinmyer, G.J. Frost, J.S. Holloway, and F.C. Fehsenfeld, Nitric acid loss rates measured in power plant plumes, *J. Geophys. Res.*, 109(D23304), doi:10.1029/2004JD005092, 2004.

Neuman, J.A., T.B. Ryerson, L.G. Huey, R. Jakoubek, J.B. Nowak, C. Simons, and F.C. Fehsenfeld, Calibration and evaluation of nitric acid and ammonia permeation tubes by UV optical absorption, *Environ. Sci. Technol.*, 37(13), 2975-2981, doi: 2910.1021/es026422l, 2003.

Neuman, J.A., J.B. Nowak, C.A. Brock, M. Trainer, F.C. Fehsenfeld, J.S. Holloway, G. Hübler, P.K. Hudson, D.M. Murphy, D.K. Nicks, Jr., D. Orsini, D.D. Parrish, T.B. Ryerson, D.T. Sueper, A. Sullivan, and R. Weber, Variability in ammonium nitrate formation and nitric acid depletion with altitude and location over California, *J. Geophys. Res.*, 108(D17), doi:10.1029/2003JD003616, 2003.

Newman, P.A., J.S. Daniel, D.W. Waugh, and E.R. Nash, A new formulation of equivalent effective stratospheric chlorine (EESC), *Atmos. Chem. Phys.*, 7(17), 4537-4552, 2007.

Nicks, D.K., Jr., J.S. Holloway, T.B. Ryerson, R.W. Dally, D.D. Parrish, G.J. Frost, M. Trainer, S.G. Donnelly, S. Schauffler, E.L. Atlas, G. Hübler, D.T. Sueper, and F.C. Fehsenfeld, Fossil-fueled power plants as a source of atmospheric carbon monoxide, *Journal of Environmental Monitoring*, 5, 35-39, doi:10.1039/b201486f, 2003.

Niemeier, U., C. Granier, L. Kornblueh, S. Walters, and G.P. Brasseur, Global impact of road traffic on atmospheric chemical composition and on ozone climate forcing, *J. Geophys. Res.*, 111(D09301), doi:10.1029/2005JD006407, 2006.

Northway, M.J., J.A. de Gouw, D.W. Fahey, R.S. Gao, C. Warneke, J.M. Roberts, and F. Flocke, Evaluation of the role of heterogeneous oxidation of alkenes in the detection of atmospheric acetaldehyde, *Atmos. Environ.*, 38, 6017-6028, doi:6010.1016/j.atmosenv.2004.6006.6039, 2004.

Nowak, J.B., J.A. Neuman, K. Kozai, L.G. Huey, D.J. Tanner, J.S. Holloway, T.B. Ryerson, G.J. Frost, S.A. McKeen, and F.C. Fehsenfeld, A chemical ionization mass spectrometry technique for airborne measurements of ammonia, *J. Geophys. Res.*, 112(D10S02), doi:10.1029/2006JD007589, 2007.

Nowak, J.B., L.G. Huey, A.G. Russell, D. Tian, J.A. Neuman, D. Orsini, S.J. Sjostedt, A.P. Sullivan, D.J. Tanner, R.J. Weber, A. Nenes, E. Edgerton, and F.C. Fehsenfeld, Analysis of urban gas phase ammonia measurements from the 2002 Atlanta Aerosol Nucleation and Real-time Characterization Experiment (ANARChE), *J. Geophys. Res.*, 111(D17308), doi:10.1029/2006JD007113, 2006.

Nowak, J.B., D.D. Parrish, J.A. Neuman, J.S. Holloway, O.R. Cooper, T.B. Ryerson, D.K. Nicks Jr., F. Flocke, J.M. Roberts, E. Atlas, J.A. de Gouw, S. Donnelly, E. Dunlea, G. Hübner, L.G. Huey, S. Schauffler, D.J. Tanner, C. Warneke, and F.C. Fehsenfeld, Gas-phase chemical characteristics of Asian emission plumes observed during ITCT 2K2 over the eastern North Pacific Ocean, *J. Geophys. Res.*, 109(D23S19), doi:10.1029/2003JD004488, 2004.

Osthoff, H., T.S. Bates, J.E. Johnson, W.C. Kuster, P. Goldan, R. Sommariva, E.J. Williams, B. Lerner, C. Warneke, J. de Gouw, A. Pettersson, T. Baynard, J. Meagher, F. Fehsenfeld, A.R. Ravishankara, and S.S. Brown, Regional variation of dimethyl sulfide oxidation mechanism in the summertime marine boundary layer in the Gulf of Maine, *J. Geophys. Res.*, 114(D07301), doi:10.1029/2008JD010990, 2009.

Osthoff, H.D., J.M. Roberts, A.R. Ravishankara, E.J. Williams, B.M. Lerner, R. Sommariva, T.S. Bates, D. Coffman, P.K. Quinn, J.E. Dibb, H. Stark, J.B. Burkholder, R.K. Talukdar, J. Meagher, F.C. Fehsenfeld, and S.S. Brown, High levels of nitryl chloride in the polluted subtropical marine boundary layer, *Nature Geosci.*, 1, doi:10.1038/ngeo1177, 2008.

Osthoff, H.D., M.J. Pilling, A.R. Ravishankara, and S.S. Brown, Temperature dependence of the NO_3 absorption cross section above 298 K and determination of the equilibrium constant for $\text{NO}_3 + \text{NO}_2 \leftrightarrow \text{N}_2\text{O}_5$ at atmospherically relevant conditions, *Physical Chemistry Chemical Physics*, 9(43), 5785-5793, doi:5710.1039/b709193a, 2007.

Osthoff, H.D., S.S. Brown, T.B. Ryerson, T.J. Fortin, B.M. Lerner, E.J. Williams, A. Pettersson, T. Baynard, W.P. Dubé, S.J. Ciciora, and A.R. Ravishankara, Measurement of atmospheric NO_2 by pulsed cavity ring-down spectroscopy *J. Geophys. Res.*, 111(D12305), doi:10.1029/2005JD006942, 2006.

Osthoff, H.D., R. Sommariva, T. Baynard, A. Pettersson, E.J. Williams, B.M. Lerner, J.M. Roberts, H. Stark, P.D. Goldan, W.C. Kuster, T.S. Bates, D. Coffman, A.R. Ravishankara, and S.S. Brown, Observation of daytime N_2O_5 in the marine boundary layer during New England Air Quality Study–Intercontinental Transport and Chemical Transformation 2004, *J. Geophys. Res.*, 111(D23S14), doi:10.1029/2006JD007593, 2006.

Owen, R.C., O.R. Cooper, A. Stohl, and R.E. Honrath, An analysis of the mechanisms of North American pollutant transport to the central North Atlantic lower free troposphere, *J. Geophys. Res.*, 111(D23S58), doi:10.1029/2006JD007062, 2006.

Pagowski, M., G.A. Grell, D. Devenyi, S.E. Peckham, S.A. McKeen, W. Gong, L.D. Monache, J.N. McHenry, J. McQueen, and P. Lee, Application of dynamic linear regression to improve the skill of ensemble-based deterministic ozone forecasts, *Atmos. Environ.*, 40(18), 3240-3250, doi:3210.1016/j.atmosenv.2006.3202.3006, 2006.

Pagowski, M., G.A. Grell, S.A. McKeen, D. Dévényi, J.M. Wilczak, V. Bouchet, W. Gong, J. McHenry, S. Peckham, J. McQueen, R. Moffet, and Y. Tang, A simple method to improve ensemble-based ozone forecasts, *Geophys. Res. Lett.*, 32(L07814), doi:10.1029/2004GL022305, 2005.

Pahlow, M., G. Feingold, A. Jefferson, E. Andrews, J.A. Ogren, J. Wang, Y.-N. Lee, R.A. Ferrare, and D.D. Turner, Comparison between lidar and nephelometer measurements of aerosol hygroscopicity at the Southern Great Plains Atmospheric Radiation Measurement site, *J. Geophys. Res.*, 111(D05S15), doi:10.1029/2004JD005646, 2006.

Pahlow, M., D. Müller, M. Tesche, H. Eichler, G. Feingold, W.L. Eberhard, and Y.-F. Cheng, Retrieval of aerosol properties from combined multiwavelength lidar and sunphotometer measurements, *Appl. Opt.*, 45(28), 7429-7442, 2006.

- Pahlow, M., J. Kleissl, M.B. Parlange, J.M. Ondov, and D. Harrison, Atmospheric boundary-layer structure observed during a haze event due to forest-fire smoke, *Boundary Layer Meteorol.*, 114(1), 53-70, doi:10.1007/s10546-10004-16350-z, 2005.
- Pan, L.L., K.P. Bowman, M. Shapiro, W.J. Randel, R.-S. Gao, T. Campos, C. Davis, S. Schauffler, B.A. Ridley, J.C. Wei, and C. Barnet, Chemical behavior of the tropopause observed during the Stratosphere-Troposphere Analyses of Regional Transport experiment, *J. Geophys. Res.*, 112(D18110), doi:10.1029/2007JD008645, 2007.
- Papadimitriou, V.C., R.K. Talukdar, R.W. Portmann, A.R. Ravishankara, and J.B. Burkholder, CF₃CF=CH₂ and (Z)-CF₃CF=CHF: Temperature dependent OH rate coefficients and global warming potentials, *Physical Chemistry Chemical Physics*, 10(6), 808-820, doi:doi:10.1039/b714382f, 2008.
- Papadimitriou, V.C., R.W. Portmann, D.W. Fahey, J. Mühle, R.F. Weiss, and J.B. Burkholder, Experimental and theoretical study of the atmospheric chemistry and global warming potential of SO₂F₂, *J. Phys. Chem. A*, 112(49), 12657-12666, doi:10.1021/jp806368u, 2008.
- Park, S., R. Jiménez, B.C. Daube, L. Pfister, T.J. Conway, E.W. Gottlieb, V.Y. Chow, D.J. Curran, D.M. Matross, A. Bright, E.L. Atlas, T.P. Bui, R.-S. Gao, C.H. Twohy, and S.C. Wofsy, The CO₂ tracer clock for the Tropical Tropopause Layer, *Atmos. Chem. Phys.*, 7(14), 3989-4000, 2007.
- Parrish, D.D., W.D. Kuster, M. Shao, Y. Yokouchi, P.D. Goldan, J.A. de Gouw, M. Koike, and T. Shirai, Comparison of air pollutant emissions among mega-cities, *Atmos. Environ.*, submitted, 2009.
- Parrish, D.D., K.C. Aikin, S.J. Oltmans, and B.J. Johnson, Impact of background ozone inflow on summertime air quality in California's Sacramento Valley, *Geophys. Res. Lett.*, submitted, 2009.
- Parrish, D.D., D.B. Millet, and A.H. Goldstein, Increasing ozone in marine boundary layer inflow at the west coasts of North America and Europe, *Atmos. Chem. Phys.*, 9(4), 1303-1323, 2009.
- Parrish, D., M. Hardesty, D.T. Allen, J. Meagher, T.S. Bates, J. Nielsen-Gammon, M. Estes, R.B. Pierce, F. Fehsenfeld, T. Ryerson, G. Feingold, J. Seinfeld, R. Ferrare, and E. Williams, Overview of the second Texas Air Quality Study (TexAQS II) and the Gulf of Mexico Atmospheric Composition and Climate Study (GoMACCS), *J. Geophys. Res.*, in press, 2009.
- Parrish, D., P. Goldan, J. de Gouw, M. Shao, Y. Kondo, T. Shirai, Y. Yokouchi, and M. Koike, Comparison of air pollutant emissions among mega-cities, in *IGACtivities Newsletter*, edited, pp. 22-29, (2008).
- Parrish, D.D., A. Stohl, C. Forster, E.L. Atlas, D.R. Blake, P.D. Goldan, W.C. Kuster, and J.A. deGouw, Effects of mixing on evolution of hydrocarbon ratios in the troposphere, *J. Geophys. Res.*, 112(D10S34), doi:10.1029/2006JD007583, 2007.
- Parrish, D.D., Critical evaluation of US on-road vehicle emission inventories, *Atmos. Environ.*, 40(13), 2288-2300, doi:2210.1016/j.atmosenv.2005.2211.2033, 2006.
- Parrish, D., Chapter 7 - Top-Down Assessments of Emission Inventories, in *Improving Emission Inventories for Effective Air Quality Management Across North America - A NARSTO Assessment*, edited by T.N.E.I.A. Team, pp. 197-219, (2005).
- Parrish, D.D., E.J. Dunlea, E.L. Atlas, S. Schauffler, S. Donnelly, V. Stroud, A.H. Goldstein, D.B. Millet, M. McKay, D.A. Jaffe, H.U. Price, P.G. Hess, F. Flocke, and J.M. Roberts, Changes in the photochemical environment of the temperate North Pacific troposphere in response to increased Asian emissions, *J. Geophys. Res.*, 109(D23S18), doi:10.1029/2004JD004978, 2004.
- Parrish, D.D., T.B. Ryerson, J.S. Holloway, J.A. Neuman, J.M. Roberts, J. Williams, C.A. Stroud, G.J. Frost, M. Trainer, G. Hübler, F.C. Fehsenfeld, F. Flocke, and A.J. Weinheimer, Fraction and composition of NO_y transported in air masses lofted from the North American continental boundary layer, *J. Geophys. Res.*,

109(D09302), doi:10.1029/2003JD004226, 2004.

Parrish, D.D., Y. Kondo, O.R. Cooper, C.A. Brock, D.A. Jaffe, M. Trainer, T. Ogawa, G. Hübner, and F.C. Fehsenfeld, Intercontinental Transport and Chemical Transformation 2002 (ITCT 2K2) and Pacific Exploration of Asian Continental Emission (PEACE) experiments: An overview of the 2002 winter and spring intensives, *J. Geophys. Res.*, 109(D23S01), doi:10.1029/2004JD004980, 2004.

Pechtl, S., E.R. Lovejoy, J.B. Burkholder, and R. von Glasow, Modeling the possible role of iodine oxides in atmospheric new particle formation, *Atmos. Chem. Phys.*, 6(2), 505-523, 2006.

Pechtl, S., E.R. Lovejoy, J.B. Burkholder, and R. von Glasow, Modeling the possible role of iodine oxides in atmospheric new particle formation, *Atmos. Chem. Phys. Disc.*, 5(5), 9907-9952, 2005.

Peltier, R.E., A.P. Sullivan, R.J. Weber, C.A. Brock, A.G. Wollny, J.S. Holloway, J.A. de Gouw, and C. Warneke, Fine aerosol bulk composition measured on WP-3D research aircraft in vicinity of the Northeastern United States – results from NEAQS, *Atmos. Chem. Phys. Disc.*, 7(1), 3073-3112, 2007.

Pétron, G., P. Tans, G. Frost, D. Chao, and M. Trainer, High resolution emissions of CO₂ from power generation in the USA, *Journal of Geophysical Research-Biogeosciences*, 113(G04008), doi:10.1029/2007JG000602, 2008.

Pettersson, A., E.R. Lovejoy, C.A. Brock, S.S. Brown, and A.R. Ravishankara, Measurement of aerosol optical extinction at 532 nm with pulsed cavity ring down spectroscopy, *J. Aero. Sci.*, 35, 995-1001, doi:10.1016/j.jaerosci.2004.1002.1008, 2004.

Pfister, G.G., L.K. Emmons, P.G. Hess, R. Honrath, J.-F. Lamarque, M. Val Martin, R.C. Owen, M.A. Avery, E.V. Browell, J.S. Holloway, P. Nedelev, R. Purvis, T.B. Ryerson, G.W. Sachse, and H. Schlager, Ozone production from the 2004 North American boreal fires, *J. Geophys. Res.*, 111(D24S07), doi:10.1029/2006JD007695, 2006.

Pfister, G., G. Pétron, L.K. Emmons, J.C. Gille, D.P. Edwards, J.-F. Lamarque, J.-L. Attie, C. Granier, and P.C. Novelli, Evaluation of CO simulation and the analysis of the CO budget for Europe, *J. Geophys. Res.*, 109(D19304), doi:10.1029/2004JD004691, 2004.

Pfister, L., H.B. Selkirk, E.J. Jensen, J.R. Podolske, G. Sachse, M. Avery, M.R. Schoeberl, M.J. Mahoney, and E. Richard, Processes controlling water vapor in the winter Arctic tropopause region, *J. Geophys. Res.*, 108(D5), doi:10.1029/2001JD001067, 2003.

Pichel, W.G., J.H. Churnside, T.S. Veenstra, D.G. Foley, K.S. Friedman, R.E. Brainard, J.B. Nicoll, Q. Zheng, and P. Clemente-Colón, Marine debris collects within the North Pacific subtropical convergence zone, *Marine Pollution Bulletin*, 54, 1207-1211, doi:1210.1016/j.marpolbul.2007.1204.1010, 2007.

Pichugina, Y.L., and R. Banta, Stable boundary-layer depth from high-resolution measurements of the mean wind profile, *J. Aero. Sci.*, submitted, 2009.

Pichugina, Y.L., R.M. Banta, N.D. Kelley, B.L. Jonkman, S.C. Tucker, R.K. Newsom, and W.A. Brewer, Horizontal-velocity and variance measurements in the stable boundary layer using Doppler Lidar: Sensitivity to averaging procedures, *Journal of Atmospheric and Oceanic Technology*, 25, 1307-1327, 2008.

Pierce, R.B., J.A. Al-Saadi, T.D. Fairlie, M. Natarajan, V.L. Harvey, W.L. Grose, J.M. Russell III, R. Bevilacqua, S.D. Eckermann, D. Fahey, P. Popp, E. Richard, R. Stimpfle, G.C. Toon, C.R. Webster, and J. Elkins, Large-scale chemical evolution of the Arctic vortex during the 1999/2000 winter: HALOE/POAM III Lagrangian photochemical modeling for the SAGE III - Ozone Loss and Validation Experiment (SOLVE) campaign, *J. Geophys. Res.*, 108(D5), doi:10.1029/2001JD001063, 2003.

Pittman, J.V., E.M. Weinstock, R.J. Oglesby, D.S. Sayres, J.B. Smith, J.G. Anderson, O.R. Cooper, S.C. Wofsy, I. Xueref, C. Gerbig, B.C. Daube, E.C. Richard, B.A. Ridley, A.J. Weinheimer, M. Loewenstein, H.-J. Jost, J.P.

- Lopez, M.J. Mahoney, T.L. Thompson, W.W. Hargrove, and F.M. Hoffman, Transport in the subtropical lowermost stratosphere during the Cirrus Regional Study of Tropical Anvils and Cirrus Layers–Florida Area Cirrus Experiment, *J. Geophys. Res.*, 112(D08304), doi:10.1029/2006JD007851, 2007.
- Popp, P.J., T.P. Marcy, L.A. Watts, R.S. Gao, D.W. Fahey, E.M. Weinstock, J.B. Smith, R.L. Herman, R.F. Troy, C.R. Webster, L.E. Christensen, D.G. Baumgardner, C. Voigt, B. Kärcher, J.C. Wilson, M.J. Mahoney, E.J. Jensen, and T.P. Bui, Condensed-phase nitric acid in a tropical subvisible cirrus cloud, *Geophys. Res. Lett.*, 34(L24812), doi:10.1029/2007GL031832, 2007.
- Popp, P.J., T.P. Marcy, E.J. Jensen, B. Kärcher, D.W. Fahey, R.S. Gao, T.L. Thompson, K.H. Rosenlof, E.C. Richard, R.L. Herman, E.M. Weinstock, J.B. Smith, R.D. May, H. Vömel, J.C. Wilson, A.J. Heymsfield, M.J. Mahoney, and A.M. Thompson, The observation of nitric acid-containing particles in the tropical lower stratosphere, *Atmos. Chem. Phys.*, 6, 601-611, 2006.
- Popp, P.J., R.S. Gao, T.P. Marcy, D.W. Fahey, P.K. Hudson, T.L. Thompson, B. Kärcher, B.A. Ridley, A.J. Weinheimer, D.J. Knapp, D.D. Montzka, D. Baumgardner, T.J. Garrett, E.M. Weinstock, J.B. Smith, D.S. Sayres, J.V. Pittman, S. Dhaniyala, T.P. Bui, and M.J. Mahoney, Nitric acid uptake on subtropical cirrus cloud particles, *J. Geophys. Res.*, 109(D06302), doi:10.1029/2003JD004255, 2004.
- Portmann, R., P. Solomon, and G.C. Hegerl, Spatial and seasonal patterns in climate change, temperatures and precipitation across the United States, *Proc. Nat. Acad. Sci. U.S.A.*, *in press*, 2009.
- Portmann, R.W., and S. Solomon, Indirect radiative forcing of the ozone layer during the 21st century, *Geophys. Res. Lett.*, 34(L02813), doi:10.1029/2006GL028252, 2007.
- Price, H.U., D.A. Jaffe, O.R. Cooper, and P.V. Doskey, Photochemistry, ozone production, and dilution during long-range transport episodes from Eurasia to the northwest United States, *J. Geophys. Res.*, 109(D23S13), doi:10.1029/2003JD004400, 2004.
- Proffitt, M.H., K. Aikin, A.F. Tuck, J.J. Margitan, C.R. Webster, G.C. Toon, and J.W. Elkins, Seasonally averaged ozone and nitrous oxide in the Northern Hemisphere lower stratosphere, *J. Geophys. Res.*, 108(D3), doi:10.1029/2002JD002657, 2003.
- U.S. Climate Change Science Program, Subcommittee on Global Change, Trends in Emissions of Ozone-Depleting Substances, Ozone Layer Recovery, and Implications for Ultraviolet Radiation Exposure, 240 pp, Asheville, North Carolina, (2008).
- Quinn, P.K., T.S. Bates, D. Coffman, T.B. Onasch, D. Worsnop, T. Baynard, J.A. de Gouw, P.D. Goldan, W.C. Kuster, E. Williams, J.M. Roberts, B. Lerner, A. Stohl, A. Pettersson, and E.R. Lovejoy, Impacts of sources and aging on submicrometer aerosol properties in the marine boundary layer across the Gulf of Maine, *J. Geophys. Res.*, 111(D23S36), doi:10.1029/2006JD007582, 2006.
- Rajakumar, B., D.C. McCabe, R.K. Talukdar, and A.R. Ravishankara, Rate Coefficients for the Reactions of OH with n-Propanol and iso-Propanol between 237 and 376 K, *Int. J. Chem. Kin.*, *Submitted*, 2009.
- Rajakumar, B., T. Gierczak, J.E. Flad, A.R. Ravishankara, and J.B. Burkholder, The CH₃CO quantum yield in the 248 nm photolysis of acetone, methyl ethyl ketone, and biacetyl, *Journal of Photochemistry and Photobiology A: Chemistry*, 199(2-3), 336-344, doi:10.1016/j.jphotochem.2008.06.015, 2008.
- Rajakumar, B., J.E. Flad, T. Gierczak, A.R. Ravishankara, and J.B. Burkholder, Visible absorption spectrum of the CH₃CO radical, *J. Phys. Chem. A*, 111(37), 8950-8958, doi:8910.1021/jp73339h, 2007.
- Rajakumar, B., R.W. Portmann, J.B. Burkholder, and A.R. Ravishankara, Rate Coefficients for the Reactions of OH with CF₃CH₂CH₃ (HFC-263fb), CF₃CHFCH₂F (HFC-245eb), and CHF₂CHFCHF₂ (HFC-245ea) between 238 and 375 K, *J. Phys. Chem. A*, 110(21), 6724-6731, doi:6710.1021/jp056248y S051089-055639(056205)006248-056241, 2006.

Rajakumar, B., J.B. Burkholder, R.W. Portmann, and A.R. Ravishankara, Rate coefficients for the OH + CF₂CH₂OH reaction between 238 and 355 K, *Physical Chemistry Chemical Physics*, 7, 2498-2505, doi:2410.1039/b503332b, 2005.

Ravishankara, A.R., M.J. Kurylo, and A.-M. Schmolter, Chapter 1 - Introduction, in *Trends in Emissions of Ozone-Depleting Substances, Ozone Layer Recovery, and Implications for Ultraviolet Radiation Exposure*, edited by A.R. Ravishankara, M.J. Kurylo and C.A. Ennis, pp. 23-28, Dept. of Commerce, NOAA's National Climate Data Center, Asheville, North Carolina, (2008).

Ravishankara, A.R., M.J. Kurylo, J.S. Daniel, D.W. Fahey, J.R. Herman, S.A. Montzka, M. Ko, P.A. Newman, and R. Stolarski, Chapter 6 - Implication for the United States, in *Trends in Emissions of Ozone-Depleting Substances, Ozone Layer Recovery, and Implications for Ultraviolet Radiation Exposure*, edited by A.R. Ravishankara, M.J. Kurylo and C.A. Ennis, pp. 155-166, Dept. of Commerce, NOAA's National Climate Data Center, Asheville, North Carolina, (2008).

Ravishankara, A.R., M.J. Kurylo, R. Bevilacqua, J. Cohen, J.S. Daniel, A.R. Douglass, D.W. Fahey, J.R. Herman, T. Keating, M. Ko, S.A. Montzka, P.A. Newman, V. Ramaswamy, A.-M. Schmolter, R. Stolarski, and K. Vick, Executive Summary, in *Trends in Emissions of Ozone-Depleting Substances, Ozone Layer Recovery, and Implications for Ultraviolet Radiation Exposure*, edited by A.R. Ravishankara, M.J. Kurylo and C.A. Ennis, pp. 15-22, Dept. of Commerce, NOAA's National Climate Data Center, Asheville, North Carolina, (2008).

Ravishankara, A.R., Chemistry-climate coupling; The importance of chemistry in climate issues (Introductory Lecture), *Faraday Discuss.*, 130, 9-26, doi:10.1039/b509603k, 2005.

Ravishankara, A.R., Introduction: Atmospheric Chemistry—Long-Term Issues, *Chem. Rev.*, 103(12), 4505-4507, 2003.

Ray, E.A., and K.H. Rosenlof, Hydration of the upper troposphere by tropical cyclones, *J. Geophys. Res.*, 112(D12311), doi:10.1029/2006JD008009, 2007.

Ray, E.A., K.H. Rosenlof, E. Richard, D. Parrish, and R. Jakoubek, Distributions of ozone in the region of the subtropical jet: An analysis of in situ aircraft measurements, *J. Geophys. Res.*, 109(D08106), doi:10.1029/2003JD004143, 2004.

Ray, E.A., K.H. Rosenlof, E.C. Richard, P.K. Hudson, D.J. Cziczo, M. Loewenstein, H.-J. Jost, J. Lopez, B. Ridley, A. Weinheimer, D. Montzka, D. Knapp, S.C. Wofsy, B.C. Daube, C. Gerbig, I. Xueref, and R.L. Herman, Evidence of the effect of summertime midlatitude convection on the subtropical lower stratosphere from CRYSTAL-FACE tracer measurements, *J. Geophys. Res.*, 109(D18304), doi:10.1029/2004JD004655, 2004.

Read, W.G., A. Lambert, J. Bacmeister, R.E. Cofield, L.E. Christensen, D.T. Cuddy, W.H. Daffer, B.J. Drouin, E. Fetzer, L. Froidevaux, R. Fuller, R. Herman, R.F. Jarnot, J.H. Jiang, Y.B. Jiang, K. Kelly, B.W. Knosp, L.J. Kovalenko, N.J. Livesey, H.-C. Liu, G.L. Manney, H.M. Pickett, H.C. Pumphrey, K.H. Rosenlof, X. Sabourchi, M.L. Santee, M.J. Schwartz, W.V. Snyder, P.C. Stek, H. Su, L.L. Takacs, R.P. Thurstans, H. Vömel, P.A. Wagner, J.W. Waters, C.R. Webster, E.M. Weinstock, and D.L. Wu, Aura Microwave Limb Sounder upper tropospheric and lower stratospheric H₂O and relative humidity with respect to ice validation, *J. Geophys. Res.*, 112(D24S35), doi:10.1029/2007JD008752, 2007.

Real, E., K.S. Law, H. Schlager, A. Roiger, H. Huntrieser, J. Methven, M. Cain, J. Holloway, J.A. Neuman, T. Ryerson, F. Flocke, J. de Gouw, E. Atlas, S. Donnelly, and D. Parrish, Lagrangian analysis of low level anthropogenic plume processing across the North Atlantic, *Atmos. Chem. Phys. Disc.*, 8, 7509-7554, 2008.

Reeves, J.M., J.C. Wilson, C.A. Brock, and T.P. Bui, Comparison of aerosol extinction coefficients, surface area density, and volume density from SAGE II and in situ aircraft measurements, *J. Geophys. Res.*, 113(D10202), doi:10.1029/2007JD009357, 2008.

Reeves, C.E., D.M. Cunnold, R.G. Gerwent, E. Dlugokencky, S. Edouard, C. Granier, R. Ménard, P. Novelli, and

- D. Parrish, Determination of Emissions from Observations of Atmospheric Compounds, in *Emissions of Atmospheric Trace Compounds*, edited by C. Granier, P. Artaxo and C.E. Reeves, pp. 427-476, Kluwer Academic Publishers, Dordrecht, The Netherlands, (2004).
- Richard, E.C., A.F. Tuck, K.C. Aikin, K.K. Kelly, R.L. Hermann, R.F. Troy, S.J. Hovde, K.H. Rosenlof, T.L. Thompson, and E.A. Ray, High resolution airborne profiles of CH₄, O₃ and water vapor near tropical Central America in late January to early February 2004, *J. Geophys. Res.*, 111(D13304), doi:10.1029/2005JD006513, 2006.
- Richard, E.C., K.C. Aikin, E.A. Ray, K.H. Rosenlof, T.L. Thompson, A. Weinheimer, D. Montzka, D. Knapp, B. Ridley, and A. Gettelman, Large-scale equatorward transport of ozone in the subtropical lower stratosphere, *J. Geophys. Res.*, 108(D23), doi:10.1029/2003JD003884, 2003.
- Richter, A., J.P. Burrows, H. Nüß, C. Granier, and U. Niemeier, Increase in tropospheric nitrogen dioxide over China observed from space, *Nature*, 437, 129-132, doi:110.1038/nature04092, 2005.
- Ridley, B., E. Atlas, H. Selkirk, L. Pfister, D. Montzka, J. Walega, S. Donnelly, V. Stroud, E. Richard, K. Kelly, A. Tuck, T. Thompson, J. Reeves, D. Baumgardner, W.T. Rawlins, M. Mahoney, R. Herman, R. Friedl, F. Moore, E. Ray, and J. Elkins, Convective transport of reactive constituents to the tropical and mid-latitude tropopause region: I. Observations, *Atmos. Environ.*, 38, 1259-1274, doi:1210.1016/j.atmosenv.2003.1211.1038, 2004.
- Riffault, V., T. Gierczak, J.B. Burkholder, and A.R. Ravishankara, Quantum yields for OH production in the photodissociation of HNO₃ at 248 and 308 nm and H₂O₂ at 308 and 320 nm, *Physical Chemistry Chemical Physics*, 8(9), 1079-1085, doi:1010.1039/b513760h, 2006.
- Roberts, J.M., Constraints on the possible atmospheric sources of perchlorate, *Environmental Chemistry*, 6(1), 3-6, doi:10.1071/EN08089, 2009.
- Roberts, J.M., H.D. Osthoff, S.S. Brown, and A.R. Ravishankara, N₂O₅ oxidizes chloride to Cl₂ in acidic atmospheric aerosol, *Science*, 321, 1059, doi:doi:10.1126/science.1158777, 2008.
- Roberts, J.M., Chapter 6 - Pan and Related Compounds, in *Volatile Organic Compounds in the Atmosphere*, edited by U.o.W. Ralf Koppmann, Germany, pp. 221- 268, Blackwell Publishing Ltd., Oxford, United Kingdom, (2007).
- Roberts, J.M., M. Marchewka, S.B. Bertman, R. Sommariva, C. Warneke, J. de Gouw, W. Kuster, P. Goldan, E. Williams, B.M. Lerner, P. Murphy, and F.C. Fehsenfeld, Measurements of PANS during the New England Air Quality Study 2002, *J. Geophys. Res.*, 112(D20306), doi:10.1029/2007JD008667, 2007.
- Roberts, J.M., M. Marchewka, S.B. Bertman, P. Goldan, W. Kuster, J. de Gouw, C. Warneke, E. Williams, B. Lerner, P. Murphy, E. Apel, and F.C. Fehsenfeld, Analysis of the isoprene chemistry observed during the New England Air Quality Study (NEAQS) 2002 intensive experiment, *J. Geophys. Res.*, 111(D23S12), doi:10.1029/JD007570, 2006.
- Roberts, J.M., Measurement of the Henry's law coefficient and first order loss rate of PAN in n-octanol, *Geophys. Res. Lett.*, 32(L08803), doi:10.1029/2004GL022327, 2005.
- Roberts, J.M., F. Flocke, G. Chen, J. de Gouw, J.S. Holloway, G. Hübler, J.A. Neuman, D.K. Nicks, Jr., J.B. Nowak, D.D. Parrish, T.B. Ryerson, D.T. Sueper, C. Warneke, and F.C. Fehsenfeld, Measurement of peroxydicarboxylic nitric anhydrides (PANs) during the ITCT 2K2 aircraft intensive experiment, *J. Geophys. Res.*, 109(D23S21), doi:10.1029/2004JD004960, 2004.
- Roberts, J.M., B.T. Jobson, W.C. Kuster, P.D. Goldan, P.C. Murphy, E. Williams, G.J. Frost, D. Riemer, E.C. Apel, C. Stroud, C. Wiedinmyer, and F.C. Fehsenfeld, An examination of the chemistry of peroxydicarboxylic nitric anhydrides and related volatile organic compounds during Texas Air Quality Study 2000 using ground-based measurements, *J. Geophys. Res.*, 108(D16), doi:10.1029/2003JD003383, 2003.

Rollins, A.W., A. Kiendler-Scharr, J.L. Fry, T. Brauers, S.S. Brown, H.-P. Dorn, W.P. Dubé, H. Fuchs, A. Mensah, T.F. Mentel, F. Rohrer, R. Tilmann, R. Wegener, P.J. Wooldridge, and R.C. Cohen, Isoprene oxidation by nitrate radical: Alkyl nitrate and secondary organic aerosol yields, *Atmos. Chem. Phys. Disc.*, 9, 8857-8902, 2009.

Rosén, S., K.D. Froyd, J. Curtius, and E.R. Lovejoy, Kinetics, thermodynamics, and ab initio calculations of $\text{HS}_2\text{O}_7^-(\text{H}_2\text{SO}_4)_x$ ($x=1-3$) cluster ions, *Int. J. Mass Spectrom.*, 232, 9-15, doi: 10.1016/j.ijms.2003.1010.1004, 2004.

Rosenlof, K.H., and G.C. Reid, Reply to Comment on 'Trends in the temperature and water vapor content of the tropical lower stratosphere: Sea surface connection', *J. Geophys. Res.*, submitted, 2009.

Rosenlof, K.H., and G.C. Reid, Trends in the temperature and water vapor content of the tropical lower stratosphere: Sea surface connection, *J. Geophys. Res.*, 113(D06107), doi:10.1029/2007JD009109, 2008.

Rosenlof, K.H., How water enters the stratosphere, *Science*, 302, 1691-1692, 2003.

Roundy, P.E., and G.N. Kiladis, Observed relationships between oceanic Kelvin waves and atmospheric forcing, *J. Clim.*, 19(20), 5253-5272, 2006.

Roundy, P.E., and W.M. Frank, Applications of a multiple linear regression model to the analysis of relationships between eastward- and westward-moving intraseasonal modes, *J. Atmos. Sci.*, 61, 3041-3048, 2004.

Roundy, P.E., and W.M. Frank, Effects of low-frequency wave interactions on intraseasonal oscillations, *J. Atmos. Sci.*, 61, 3025-3040, 2004.

Rucker, M., R.M. Banta, and D.G. Steyn, Along-valley structure of daytime thermally driven flows in the Wipp Valley, *Journal of Applied Meteorology and Climatology*, 47(3), 733-751, doi:710.1175/2007JAMC1319.1171, 2008.

Ryerson, T.B., M. Trainer, W.M. Angevine, C.A. Brock, R.W. Dissly, F.C. Fehsenfeld, G.J. Frost, P.D. Goldan, J.S. Holloway, G. Hübler, R.O. Jakoubek, W.C. Kuster, J.A. Neuman, D.K. Nicks, Jr., D.D. Parrish, J.M. Roberts, D.T. Sueper, E.L. Atlas, S.G. Donnelly, F. Flocke, A. Fried, W.T. Potter, S. Schauffler, V. Stroud, A.J. Weinheimer, B.P. Wert, C. Wiedinmyer, R.J. Alvarez, R.M. Banta, L.S. Darby, and C.J. Senff, Effect of petrochemical industrial emissions of reactive alkenes and NO_x on tropospheric ozone formation in Houston, Texas, *J. Geophys. Res.*, 108(D8), doi:10.1029/2002JD003070, 2003.

Sanford, T.J., D.M. Murphy, D.S. Thomson, and R.W. Fox, Albedo measurements and optical sizing of single aerosol particles, *Aerosol Sci. Technol.*, 42(11), 958-969, doi:10.1080/02786820802363827, 2008.

Santee, M.L., A. Lambert, W.G. Read, N.J. Livesey, R.E. Cofield, D.T. Cuddy, W.H. Daffer, B.J. Drouin, L. Froidevaux, R.A. Fuller, R.F. Jarnot, B.W. Knosp, G.L. Manney, V.S. Perun, W.V. Snyder, P.C. Stek, R.P. Thurstans, P.A. Wagner, J.W. Waters, G. Muscari, R.L. de Zafra, J.E. Dibb, D.W. Fahey, P.J. Popp, T.P. Marcy, K.W. Jucks, G.C. Toon, R.A. Stachnik, P.F. Bernath, C.D. Boone, K.A. Walker, J. Urban, and D. Murtagh, Validation of the Aura Microwave Limb Sounder HNO_3 measurements, *J. Geophys. Res.*, 112(D24S40), doi:10.1029/2007JD008721, 2007.

Santer, B.D., K.E. Taylor, P.J. Gleckler, C. Bonfils, T.P. Barnett, D.W. Pierce, T.M.L. Wigley, C. Mears, F.J. Wentz, W. Bruggemann, N.P. Gillett, S.A. Klein, S. Solomon, P.A. Stott, and M.F. Wehner, Incorporating model quality information in climate change detection and attribution, *Proc. Nat. Acad. Sci. U.S.A.*, submitted, 2009.

Santer, B.D., P.W. Thorne, L. Haimberger, K.E. Taylor, T.M.L. Wigley, J.R. Lanzante, S. Solomon, M. Free, P.J. Gleckler, P.D. Jones, T.R. Karl, S.A. Klein, C. Mears, D. Nychka, G.A. Schmidt, S.C. Sherwood, and F.J. Wentz, Consistency of modelled and observed temperature trends in the tropical troposphere, *Int. J. Climatol.*, 28(13), 1703-1722, doi:10.1002/joc.1756, 2008.

- Sassen, K., J.R. Campbell, J. Zhu, P. Kollias, M. Shupe, and C.R. Williams, Lidar and triple-wavelength Doppler radar measurements of the melting layer: A revised model for dark- and brightband phenomena, *Journal of Applied Meteorology*, 44(3), 301-312, doi:310.1175/JAM-2197.1171, 2005.
- Schafer, R., S.K. Avery, K.S. Gage, P.E. Johnston, and D.A. Carter, Improving wind profiler measured winds using coplanar spectral averaging, *Journal of Atmospheric and Oceanic Technology*, 21(11), 1671-1678, doi:1610.1175/JTECH1672.1671, 2004.
- Schafer, R., S.K. Avery, and K.S. Gage, A comparison of VHF wind profiler observations and the NCEP-NCAR reanalysis over the tropical Pacific, *Journal of Applied Meteorology*, 42, 873-889, 2003.
- Scheeren, H.A., J. Lelieveld, G.J. Roelofs, J. Williams, H. Fischer, M. de Reus, J.A. de Gouw, C. Warneke, R. Holzinger, H. Schlager, T. Klüpfel, M. Bolder, C. van der Veen, and M.G. Lawrence, The impact of monsoon outflow from India and southeast Asia in the upper troposphere over the eastern Mediterranean, *Atmos. Chem. Phys.*, 3, 1589-1608, 2003.
- Schmidt, K.S., G. Feingold, P. Pilewskie, H. Jiang, O. Coddington, and M. Wendisch, Irradiance in polluted cumulus fields: Measured and modeled cloud-aerosol effects, *Geophys. Res. Lett.*, submitted, 2009.
- Schofield, R., J.S. Daniel, R.W. Portmann, H.L. Miller, S. Solomon, C.S. Eubank, M.L. Melamed, A.O. Langford, M.D. Shupe, and T. D.D., Retrieval of effective radius and liquid water path from ground-based instruments: A case study at Barrow, Alaska, *J. Geophys. Res.*, 112(D21203), doi:10.1029/2007JD008737, 2007.
- Schwarz, J.P., J.R. Spackman, D.W. Fahey, R.S. Gao, U. Lohmann, P. Stier, L.A. Watts, D.S. Thomson, D.A. Lack, L. Pfister, M.J. Mahoney, D. Baumgardner, J.C. Wilson, and J.M. Reeves, Coatings and their enhancement of black-carbon light absorption in the tropical atmosphere, *J. Geophys. Res.*, 113(D03203), doi:10.1029/2007JD009042, 2008.
- Schwarz, J.P., R.S. Gao, J.R. Spackman, L.A. Watts, D.S. Thomson, D.W. Fahey, T.B. Ryerson, J. Peischl, J.S. Holloway, M. Trainer, G.J. Frost, T. Baynard, D.A. Lack, J.A. de Gouw, C. Warneke, and L.A. Del Negro, Measurement of the mixing state, mass, and optical size of individual black carbon particles in urban and biomass burning emissions, *Geophys. Res. Lett.*, 35(L13810), doi:10.1029/2008GL033968, 2008.
- Schwarz, J.P., R.S. Gao, D.W. Fahey, D.S. Thomson, L.A. Watts, J.C. Wilson, J.M. Reeves, M. Darbeheshti, D.G. Baumgardner, G.L. Kok, S.H. Chung, M. Schulz, J. Hendricks, A. Lauer, B. Kärcher, J.G. Slowik, K.H. Rosenlof, T.L. Thompson, A.O. Langford, M. Loewenstein, and K.C. Aikin, Single-particle measurements of midlatitude black carbon and light-scattering aerosols from the boundary layer to the lower stratosphere, *J. Geophys. Res.*, 111(D16207), doi:10.1029/2006JD007076, 2006.
- Shaw, J.A., N.L. Seldomridge, D.L. Dunkle, P.W. Nugent, L.H. Spangler, J.J. Bromenshenk, C.B. Henderson, J.H. Churnside, and J.J. Wilson, Lidar Measurements of Honey Bees for Locating Land Mines, in *Optics and Photonics News*, edited, p. 33, (2005).
- Shaw, J.A., N.L. Seldomridge, D.L. Dunkle, P.W. Nugent, L.H. Spangler, J.J. Bromenshenk, C.B. Henderson, J.H. Churnside, and J.J. Wilson, Polarization lidar measurements of honey bees in flight for locating land mines, *Optics Express*, 13(13), 5853-5863, 2005.
- Shetter, R.E., W. Junkermann, W.H. Swartz, G.J. Frost, J.H. Crawford, B.L. Lefer, J.D. Barrick, S.R. Hall, A. Hofzumahaus, A. Bais, J.G. Calvert, C.A. Cantrell, S. Madronich, M. Müller, A. Kraus, P.S. Monks, G.D. Edwards, R. McKenzie, P. Johnston, R. Schmitt, E. Griffioen, M. Krol, A. Kylling, R.R. Dickerson, S.A. Lloyd, T. Martin, B. Gardiner, B. Mayer, G. Pfister, E.P. Röth, P. Koepke, A. Ruggaber, H. Schwander, and M. van Weele, Photolysis frequency of NO₂: Measurement and modeling during the International Photolysis Frequency Measurement and Modeling Intercomparison (IPMMI), *J. Geophys. Res.*, 108(D16), 8544, doi:8510.1029/2002JD002932, 2003.
- Shilling, J.E., T.J. Fortin, and M.A. Tolbert, Depositional ice nucleation on crystalline organic and inorganic solids,

J. Geophys. Res., 111(D12204), doi:10.1029/2005JD006664, 2006.

Shine, K.P., M.S. Bourqui, P.M. de F. Forster, S.H.E. Hare, U. Langematz, P. Braesicke, V. Grewe, M. Ponater, C. Schnadt, C.A. Smith, J.D. Haigh, J. Austin, N. Butchart, D.T. Shindell, W.J. Randel, T. Nagashima, R.W. Portmann, S. Solomon, D.J. Seidel, J. Lanzante, S. Klein, V. Ramaswamy, and M.D. Schwarzkopf, A comparison of model-simulated trends in stratospheric temperatures, *Quart. J. Roy. Meteorol. Soc.*, 129, 1565-1588, doi: 1510.1256/qj.1502.1186, 2003.

Sierk, B., S. Solomon, J.S. Daniel, R.W. Portmann, S.I. Gutman, A.O. Langford, C.S. Eubank, E.G. Dutton, and K.H. Holub, Field measurements of water vapor continuum absorption in the visible and near-infrared, *J. Geophys. Res.*, 109(D08307), doi:10.1029/2003JD003586, 2004.

Sierk, B., S. Solomon, J.S. Daniel, R.W. Portmann, S.I. Gutman, A.O. Langford, C.S. Eubank, K.H. Holub, and S.V. Florek, Field test of spectral line intensity parameters for tropospheric water vapor, *J. Geophys. Res.*, 108(D12), doi:10.1029/2002JD002985, 2003.

Simon, H., Y. Kimura, G. McGaughey, D.T. Allen, S.S. Brown, H.D. Osthoff, J.M. Roberts, D. Byun, and D.S. Lee, Modeled the impacts of CINO_2 on ozone formation in the Houston area, *J. Geophys. Res.*, 114(D00F03), doi:10.1029/2008JD010732, 2009.

Slowik, J.G., E.S. Cross, J.-H. Han, P. Davidovits, T.B. Onasch, J.T. Jayne, L.R. Williams, M.R. Canagaratna, D.R. Worsnop, R.K. Chakrabarty, H. Moosmüller, W.P. Arnott, J.P. Schwarz, R.-S. Gao, D.W. Fahey, G.L. Kok, and A. Petzold, An inter-comparison of instruments measuring black carbon content of soot particles, *Aerosol Sci. Technol.*, 41(3), 295-314, doi:210.1080/02786820701197078, 2007.

Slusher, D.L., L.G. Huey, D.J. Tanner, F.M. Flocke, and J.M. Roberts, A thermal dissociation-chemical ionization mass spectrometry (TD-CIMS) technique for the simultaneous measurement of peroxyacetyl nitrates and dinitrogen pentoxide, *J. Geophys. Res.*, 109(D19315), doi:10.1029/2004JD004670, 2004.

Sobel, A.H., S.E. Yuter, C.S. Bretherton, and G.N. Kiladis, Large-scale meteorology and deep convection during TRMM KWAJEX, *Mon. Wea. Rev.*, 132, 422-444, 2004.

Solomon, S., G.-K. Plattner, R. Knutti, and P. Friedlingstein, Irreversible climate change due to carbon dioxide emissions, *Proc. Nat. Acad. Sci. U.S.A.*, 106(6), 1704-1709, doi:10.1073/pnas.0812721106, 2009.

Solomon, S., and M. Manning, The IPCC must maintain its rigor, *Science*, 319, 1457, doi:1410.1126/science1155724, 2008.

Solomon, S., D. Qin, M. Manning, R.B. Alley, T. Berntsen, N.L. Bindoff, Z. Chen, A. Chidthaisong, J.M. Gregory, G.C. Hegerl, M. Heimann, B. Hewitson, B.J. Hoskins, F. Joos, J. Jouzel, V. Kattsov, U. Lohmann, T. Matsuno, M. Molina, N. Nicholls, J. Overpeck, G. Raga, V. Ramaswamy, J. Ren, M. Rusticucci, R. Somerville, T.F. Stocker, P. Whetton, R.A. Wood, and D. Wratt, *Climate Change 2007: The Physical Science Basis, Contribution of Working Group 1 to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* Cambridge University Press, Cambridge, United Kingdom and New York, NY, 2007.

Solomon, S., R.W. Portmann, and D.W.J. Thompson, Contrasts between Antarctic and Arctic ozone depletion, *Proc. Nat. Acad. Sci. U.S.A.*, 104(2), 445-449, doi:410.1073/pnas.0604895104, 2007.

Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor, and H.L. Miller, *IPCC, 2007: Summary for Policymakers. In: Climate Change 2007: The Physical Science Basis. Contribution of Working Group 1 to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, 2007.

Solomon, S., J.S. Daniel, and D.L. Druckenbrod, Revolutionary Minds, *Am. Scientist*, 95, 430-437, 2007.

Solomon, S., D. Qin, M. Manning, R.B. Alley, T. Berntsen, N.L. Bindoff, Z. Chen, A. Chidthaisong, J.M. Gregory, G.C. Hegerl, M. Heimann, B. Hewitson, B.J. Hoskins, F. Joos, J. Jouzel, V. Kattsov, U. Lohmann, T. Matsuno, M. Molina, N. Nicholls, J. Overpeck, G. Raga, V. Ramaswamy, J. Ren, M. Rusticucci, R. Somerville, T.F.

- Stocker, P. Whetton, R.A. Wood, and D. Wratt, Technical Summary, in *Climate Change 2007: The Physical Science Basis, Contribution of Working Group I to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change*, edited by S. Solomon, D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignot and H.L. Miller, Cambridge University Press, Cambridge, United Kingdom and New York, NY, USA, (2007).
- Solomon, S., R.W. Portmann, T. Sasaki, D.J. Hofmann, and D.W.J. Thompson, Four decades of ozonesonde measurements over Antarctica, *J. Geophys. Res.*, 110(D21311), doi: 10.1029/2005JD005917, 2005.
- Solomon, S., D.W.J. Thompson, R.W. Portmann, S.J. Oltmans, and A.M. Thompson, On the distribution and variability of ozone in the tropical upper troposphere: Implications for tropical deep convection and chemical-dynamical coupling, *Geophys. Res. Lett.*, 32(L23813), doi: 10.1029/2005GL024323, 2005.
- Solomon, S., The hole truth, *Nature*, 427, 289-291, 2004.
- Solomon, S., and J.S. Daniel, Lewis and Clark, Pioneering meteorological observers in the American West, *Bull. Am. Meteorol. Soc.*, 85(9), doi:10.1175/BAMS-1185-1179-1273, 2004.
- Solomon, P.A., W.L. Chameides, R.J. Weber, A.M. Middlebrook, C.S. Kiang, A.G. Russell, A. Butler, B. Turpin, D. Mikel, R. Scheffe, E. Cowling, E. Edgerton, J. St. John, J. Jansen, P. McMurry, S.V. Hering, and T. Bahadori, Overview of the 1999 Atlanta Supersites Project, *J. Geophys. Res.*, 108(D7), doi:10.1029/2001JD001458, 2003.
- Sommariva, R., H.D. Osthoff, S.S. Brown, T.S. Bates, T. Baynard, D. Coffman, J.A. de Gouw, P.D. Goldan, W.C. Kuster, B.M. Lerner, H. Stark, C. Warneke, E.J. Williams, F.C. Fehsenfeld, A.R. Ravishankara, and M. Trainer, Radicals in the marine boundary layer during NEAQS 2004: A model study of day-time and night-time sources and sinks, *Atmos. Chem. Phys.*, submitted, 2009.
- Sommariva, R., M. Trainer, J.A. de Gouw, J.M. Roberts, C. Warneke, E. Atlas, F. Flocke, P.D. Goldan, W.C. Kuster, A.L. Swanson, and F.C. Fehsenfeld, A study of organic nitrates formation in an urban plume using a Master Chemical Mechanism, *Atmos. Environ.*, 42(23), 5771-5786, doi:5710.1016/j.atmosenv.2007.5712.5031, 2008.
- Song, Y., M. Shao, Y. Liu, S. Lu, W. Kuster, P. Goldan, and S. Xie, Source apportionment of ambient volatile organic compounds in Beijing, *Environ. Sci. Technol.*, 41(12), 4348-4353, doi:4310.1021/es0625982, 2007.
- Sorooshian, A., L.T. Padro, A. Nenes, G. Feingold, A. McComiskey, S. Hersey, H. Gates, H. Jonsson, S.D. Miller, G.L. Stephens, R.C. Flagan, and J. Seinfeld, On the link between ocean biota emissions, aerosol, and maritime clouds: Airborne, ground, and satellite measurements off the coast of California, *Global Biogeochem. Cycles*, submitted, 2009.
- Sorooshian, A., M.-L. Lu, F.J. Brechtel, H. Jonsson, G. Feingold, R.C. Flagan, and J.H. Seinfeld, On the source of organic acid aerosol layers above clouds, *Environ. Sci. Technol.*, 41(13), 4647-4654, doi:4610.1021/es0630442, 2007.
- Sorooshian, A., N.L. Ng, A.W.H. Chan, G. Feingold, R.C. Flagan, and J.H. Seinfeld, Particulate organic acids and overall water-soluble aerosol composition measurements from the 2006 Gulf of Mexico Atmospheric Composition and Climate Study (GoMACCS), *J. Geophys. Res.*, 112(D13201), doi:10.1029/2007JD008537, 2007.
- Sorooshian, A., V. Varutbangkul, F.J. Brechtel, B. Ervens, G. Feingold, R. Bahreini, S.M. Murphy, J.S. Holloway, E.L. Atlas, G. Buzorius, H. Jonsson, R.C. Flagan, and J.H. Seinfeld, Oxalic acid in clear and cloudy atmospheres: Analysis of data from International Consortium for Atmospheric Research on Transport and Transformation 2004, *J. Geophys. Res.*, 111(D23S45), doi:10.1029/2005JD006880, 2006.
- Spackman, J.R., J.P. Schwarz, R.S. Gao, L.A. Watts, D.S. Thomson, D.W. Fahey, J.S. Holloway, J.A. de Gouw, M. Trainer, and T.B. Ryerson, Empirical correlations between black carbon aerosol and carbon monoxide in

- the lower and middle troposphere, *Geophys. Res. Lett.*, 35(L19816), doi:10.1029/2008GL035237, 2008.
- Spichtinger, N., R. Damoah, S. Eckhardt, C. Forster, P. James, S. Beirle, T. Marbach, T. Wagner, P.C. Novelli, and A. Stohl, Boreal forest fires in 1997 and 1998: A seasonal comparison using transport model simulations and measurement data, *Atmos. Chem. Phys.*, 4, 1857-1868, doi:1680-7324/acp/2004-1854-1857, 2004.
- St.-Maurice, J.-P., R.K. Choudhary, W.L. Ecklund, and R.T. Tsunoda, Fast type-1 waves in the equatorial electrojet: Evidence for nonisothermal ion-acoustic speeds in the lower *E* region, *J. Geophys. Res.*, 108, 1170, doi:1110.1029/2002JA009648, 2003.
- Stark, H., S.S. Brown, J.B. Burkholder, M. Aldener, V. Riffault, T. Gierczak, and A.R. Ravishankara, Overtone dissociation of peroxy nitric acid (HO_2NO_2): Absorption cross sections and photolysis products, *J. Phys. Chem. A*, 112(39), 9296-9303, doi:10.1021/jp802259z, 2008.
- Stark, H., B.M. Lerner, R. Schmitt, R. Jakoubek, E.J. Williams, T.B. Ryerson, D.T. Sueper, D.D. Parrish, and F.C. Fehsenfeld, Atmospheric in situ measurement of nitrate radical (NO_3) and other photolysis rates using spectroradiometry and filter radiometry, *J. Geophys. Res.*, 112(D10S04), doi:10.1029/2006JD007578, 2007.
- Stark, H., S.S. Brown, P.D. Goldan, M. Aldener, W.C. Kuster, R. Jakoubek, F.C. Fehsenfeld, J. Meagher, T.S. Bates, and A.R. Ravishankara, Influence of nitrate radical on the oxidation of dimethyl sulfide in a polluted marine environment, *J. Geophys. Res.*, 112(D10S10), doi:10.1029/2006JD007669, 2007.
- Steeghs, M., H.P. Bais, J. de Gouw, P. Goldan, W. Kuster, M. Northway, R. Fall, and J.M. Vivanco, Proton-transfer-reaction mass spectrometry (PTR-MS) as a new tool for real time analysis of root-secreted volatile organic compounds (VOCs) in *Arabidopsis thaliana*, *Plant Physiology*, 135(47), 2004.
- Stith, J., V. Ramanathan, W.A. Cooper, G. Roberts, P.J. DeMott, G. Carmichael, C.D. Hatch, B. Adhikary, C.H. Twohy, D.C. Rogers, D. Baumgardner, A.J. Prenni, T. Campos, R. Gao, J. Anderson, and Y. Feng, Cross-Pacific transport of Asian dust-mode particles, soot and cloud active nuclei, *J. Geophys. Res.*, *in press*, 2009.
- Stohl, A., O.R. Cooper, and P. James, A cautionary note on the use of meteorological analysis fields for quantifying atmospheric mixing, *J. Atmos. Sci.*, 61, 1446-1453, 2004.
- Stohl, A., O.R. Cooper, R. Damoah, F.C. Fehsenfeld, C. Forster, E.-Y. Hsie, G. Hübler, D.D. Parrish, and M. Trainer, Forecasting for a Lagrangian aircraft campaign, *Atmos. Chem. Phys.*, 4, 1113-1124, doi:1680-7324/acp/2004-1114-1113, 2004.
- Stohl, A., Foreword, in *Intercontinental Transport of Air Pollution, The Handbook of Environmental Chemistry*, edited by O. Hutzinger, pp. XIII-XIV, doi: 10.1007/b94521, Springer-Verlag, Heidelberg, Germany, (2004).
- Stohl, A., *Intercontinental Transport of Air Pollution*, 325, doi:310.1007/b10681 pp., Springer-Verlag, Heidelberg, Germany, 2004.
- Stohl, A., and S. Eckhardt, Intercontinental Transport of Air Pollution: An Introduction, in *Intercontinental Transport of Air Pollution, The Handbook of Environmental Chemistry*, edited by O. Hutzinger, pp. 1-11, doi:10.1007/b94521, Springer-Verlag, Heidelberg, Germany, (2004).
- Stohl, A., and P. James, A Lagrangian analysis of the atmospheric branch of the global water cycle: Part 1, Method description, validation, and demonstration for the August 2002 flooding event in Central Europe, *Journal of Hydrometeorology*, 5, 656-678, 2004.
- Stohl, A., C. Forster, S. Eckhardt, N. Spichtinger, H. Huntrieser, J. Heland, H. Schlager, H. Aufmhoff, F. Arnold, and O. Cooper, A backward modeling study of intercontinental pollution transport using aircraft measurements, *J. Geophys. Res.*, 108(D12), 4370, doi:4310.1029/2002JD002862, 2003.
- Stohl, A., H. Huntrieser, A. Richter, S. Beirle, O. Cooper, S. Eckhardt, C. Forster, P. James, N. Spichtinger, M. Wenig, T. Wagner, J.P. Burrows, and U. Platt, Rapid intercontinental air pollution transport associated with a

- meteorological bomb, *Atmos. Chem. Phys.*, 3, 969-985, 2003.
- Straub, K.H., and G.N. Kiladis, Extratropical forcing of convectively coupled Kelvin waves during austral winter, *J. Atmos. Sci.*, 60, 526-543, 2003.
- Straub, K.H., and G.N. Kiladis, Interactions between the boreal summer intraseasonal oscillation and higher-frequency tropical wave activity, *Mon. Wea. Rev.*, 131, 945-960, 2003.
- Straub, K.H., and G.N. Kiladis, The observed structure of convectively coupled Kelvin waves: Comparison with simple models of coupled wave instability, *J. Atmos. Sci.*, 60, 1655-1668, 2003.
- Sullivan, A.P., R.E. Peltier, C.A. Brock, J.A. de Gouw, J.S. Holloway, C. Warneke, A.G. Wollny, and R.J. Weber, Airborne measurements of carbonaceous aerosol soluble in water over northeastern United States: Method development and an investigation into water-soluble organic carbon sources, *J. Geophys. Res.*, 111(D23S46), doi:10.1029/2006JD007072, 2006.
- Sun, Y., S. Solomon, A. Dai, and R.W. Portmann, How often will it rain?, *J. Clim.*, 20(19), 4801-4818, doi:4810.1175/JCLI4263.4801, 2007.
- Sun, Y., S. Solomon, A. Dai, and R.W. Portmann, How often does it rain?, *J. Clim.*, 19(6), 916-934, doi:910.1175/JCLI3672.1171, 2006.
- Swanson, A.L., B.L. Lefer, V. Stroud, and A. Elliot, Trace gas emissions through a winter snowpack in the subalpine ecosystem at Niwot Ridge, Colorado, *Geophys. Res. Lett.*, 32(L03805), doi:10.1029/2004GL021809, 2005.
- Talukdar, R.K., E.E. Loukhovitskaya, O.B. Popovicheva, and A.R. Ravishankara, Uptake of HNO₃ on hexane and aviation kerosene soot, *J. Phys. Chem. A*, 110(31), 9643-9653, doi:9610.1021/jp060556u S061089-065639(060506)000556-060551, 2006.
- Talukdar, R.K., T. Gierczak, D.C. McCabe, and A.R. Ravishankara, Reaction of hydroxyl radical with acetone. 2. Products and reaction mechanism, *J. Phys. Chem. A*, 107(25), 5021-5032, doi:10.1021/jp0273023, 2003.
- Tang, Y., G.R. Carmichael, N. Thongboonchoo, T. Chai, L.W. Horowitz, R.B. Pierce, J.A. Al-Saadi, G. Pfister, J.M. Vukovich, M.A. Avery, G.W. Sache, T.B. Ryerson, J.S. Holloway, E.L. Atlas, F.M. Flocke, R.J. Weber, L.G. Huey, J.E. Dibb, D.G. Streets, and W.H. Brune, Influence of lateral and top boundary conditions on regional air quality prediction: A multiscale study coupling regional and global chemical transport models, *J. Geophys. Res.*, 112(D10S18), doi:10.1029/2006JD007515, 2007.
- Tang, Y., G.R. Carmichael, L.W. Horowitz, I. Uno, J.-H. Woo, D.G. Streets, D. Dabdub, G. Kurata, A. Sandu, J. Allan, E. Atlas, F. Flocke, L.G. Huey, R.O. Jakoubek, D.B. Millet, P.K. Quinn, J.M. Roberts, D.R. Worsnop, A. Goldstein, S. Donnelly, S. Schauffler, V. Stroud, K. Johnson, M.A. Avery, H.B. Singh, and E.C. Apel, Multiscale simulations of tropospheric chemistry in the eastern Pacific and on the U.S. West Coast during spring 2002, *J. Geophys. Res.*, 109(D23S11), doi:10.1029/2004JD004513, 2004.
- Tanner, D., D. Helmg, J. Hueber, and P. Goldan, Gas chromatography system for the automated, unattended, and cryogen-free monitoring of C2 to C6 non-methane hydrocarbons in the remote troposphere, *Journal of Chromatography A*, 1111(1), 76-88, doi:10.1016/j.chroma.2006.1001.1100, 2006.
- Tenning, E., J.H. Churnside, A. Slotte, and J.J. Wilson, Lidar target-strength measurements on Northeast Atlantic mackerel (*Scomber scrombrus*), *Journal of Marine Science*, 63, 677-682, doi:610.1016/j.icesjms.2005.1011.1018, 2006.
- Tervahattu, H., J. Juhanoja, V. Vaida, A.F. Tuck, J.V. Niemi, K. Kupiainen, M. Kulmala, and H. Vehkamäki, Fatty acids on continental sulfate aerosol particles, *J. Geophys. Res.*, 110(D06207), doi:10.1029/2004JD005400,

2005.

Tervahattu, H., A.F. Tuck, and V. Vaida, Chemistry in prebiotic aerosols: A mechanism for the origin of life, in *Origins: Genesis, evolution and biodiversity of microbial life in the Universe, Cellular Origin, Life in Extreme Habitats and Astrobiology*, edited, p. inpress, (2003).

Thompson, D.W.J., and S. Solomon, Interpretation of recent stratospheric climate change, *J. Clim., submitted*, 2009.

Thompson, A.M., J.B. Stone, J.C. Witte, S.K. Miller, R.B. Pierce, R.B. Chatfield, S.J. Oltmans, O.R. Cooper, A.L. Loucks, B.F. Taubman, B.J. Johnson, E. Joseph, T.L. Kucsera, J.T. Merrill, G.A. Morris, S. Hersey, M.J. Newchurch, F.J. Schmidlin, D.W. Tarasick, V. Thouret, and J.-P. Cammas, Intercontinental Chemical Transport Experiment Ozonesonde Network Study (IONS) 2004: 1. Summertime upper troposphere/lower stratosphere ozone over northeastern North America, *J. Geophys. Res.*, 112(D12S12), doi:10.1029/2006JD007441, 2007.

Thompson, D.W.J., and S. Solomon, Recent stratospheric climate trends as evidenced in radiosonde data: Global structure and tropospheric linkages, *J. Clim.*, 18(22), 4785-4795, doi:4710/1175/JCL13585.13581, 2005.

Thompson, D.W.J., M.P. Baldwin, and S. Solomon, Stratosphere-troposphere coupling in the Southern Hemisphere, *J. Atmos. Sci.*, 62(3), 708-715, doi:710.1175/JAS-3321.1171, 2005.

Thornberry, T., D.M. Murphy, D.S. Thomson, J. de Gouw, C. Warneke, T.S. Bates, P.K. Quinn, and D. Coffman, Measurement of aerosol organic compounds using a novel collection/thermal-desorption PTR-ITMS instrument, *Aerosol Sci. Technol.*, 43(5), 486-501, doi:10.1080/02786820902763132, 2009.

Thornton, B.F., D.W. Toohey, A.F. Tuck, J.W. Elkins, K.K. Kelly, S.J. Hovde, E.C. Richard, K.H. Rosenlof, T.L. Thompson, M.J. Mahoney, and J.C. Wilson, Chlorine activation near the midlatitude tropopause, *J. Geophys. Res.*, 112(D18306), doi:1029/2006JD007640, 2007.

Thornton, J.A., P.J. Wooldridge, R.C. Cohen, E.J. Williams, D. Hereid, F.C. Fehsenfeld, J. Stutz, and B. Aliche, Comparisons of in situ and long path measurements of NO₂ in urban plumes, *J. Geophys. Res.*, 108(D16), doi:10.1029/2003JD003559, 2003.

Tie, X., G.P. Brasseur, C. Zhao, C. Granier, S. Massie, Y. Qin, P. Wang, G. Wang, P. Yang, and A. Richter, Chemical characterization of air pollution in Eastern China and the Eastern United States, *Atmos. Environ.*, 40(14), 2607-2625. doi:2610.1016/j.atmosenv.2005.2611.2059, 2006.

Tollerud, E.I., F. Caracena, D.L. Bartels, S.E. Koch, B.D. Jamison, H. R.M., B.J. McCarty, W.A. Brewer, R.S. Collander, S. Albers, B. Shaw, D.L. Kirkenheuer, and C. Kiemie, Mesoscale moisture transport by the low-level jet during the IHOP field experiment, *Mon. Wea. Rev.*, 136(10), 3781-3795, 2008.

Traub, M., H. Fischer, M. de Reus, R. Kormann, J. Heland, H. Ziereis, H. Schlager, R. Holzinger, J. Williams, C. Warneke, J.A. de Gouw, and J. Lelieveld, Chemical characteristics assigned to trajectory clusters during the MINOS campaign, *Atmos. Chem. Phys.*, 3, 459-468, 2003.

Trenberth, K., J. Overpeck, and S. Solomon, Exploring drought and its implications for the future, *EOS, Transactions, American Geophysical Union*, 85(3), 27-28, doi:0096/3941/8304/0037, 2004.

Trickl, T., O.R. Cooper, H. Eisele, P. James, R. Mücke, and A. Stohl, Intercontinental transport and its influence on the ozone concentrations over central Europe: Three case studies, *J. Geophys. Res.*, 108(D12), 8530, doi:8510.1029/2002JD002735, 2003.

Tuck, A.F., *Atmospheric Turbulence: A Molecular Dynamics Perspective*, 176 pp., Oxford University Press, 2008.

Tuck, A.F., D.J. Donaldson, M.H. Hitchman, E.C. Richard, H. Tervahattu, V. Vaida, and J.C. Wilson, On geoengineering with sulphate aerosols in the tropical upper troposphere and lower stratosphere, *Clim.*

- Change*, 90(3), 315-331, doi:10.1007/s10584-10008-19411-10583, 2008.
- Tuck, A.F., and S.J. Hovde, The Winter Polar Vortex in the Lower Stratosphere: A Flow Reactor, in *Celebration of the 20th Anniversary of the Montreal Protocol*, edited by C. Zerefos, Springer, Berlin, (2008).
- Tuck, A.F., S.J. Hovde, E.C. Richard, R.-S. Gao, T.P. Bui, W.H. Swartz, and S.A. Lloyd, Molecular velocity distributions and generalized scale invariance in the turbulent atmosphere, *Faraday Discuss.*, 130, 181-193, doi:10.1039/b410551f, 2005.
- Tuck, A.F., S.J. Hovde, K.K. Kelly, S.J. Reid, E.C. Richard, E.L. Atlas, S.G. Donnelly, V.R. Stroud, D.J. Cziczo, D.M. Murphy, D.S. Thomson, J.W. Elkins, F.L. Moore, E.A. Ray, M.J. Mahoney, and R.R. Friedl, Horizontal variability 1–2 km below the tropical tropopause, *J. Geophys. Res.*, 109(D05310), doi:10.1029/2003JD003942, 2004.
- Tuck, A.F., S.J. Hovde, and T.P. Bui, Scale invariance in jet streams: ER-2 data around the lower-stratospheric polar night vortex, *Quart. J. Roy. Meteorol. Soc.*, 130(602), 2423-2444, doi:2410.1256/qj.2403.2191, 2004.
- Tuck, A.F., S.J. Hovde, K.K. Kelly, M.J. Mahoney, M.H. Proffitt, E.C. Richard, and T.L. Thompson, Exchange between the upper tropical troposphere and the lower stratosphere studied with aircraft observations, *J. Geophys. Res.*, 108(D23), doi:10.1029/2003JD003399, 2003.
- Tuck, A.F., S.J. Hovde, R.S. Gao, and E.C. Richard, Law of mass action in the Arctic lower stratospheric polar vortex January-March 2000: ClO scaling and the calculation of ozone loss rates in a turbulent fractal medium, *J. Geophys. Res.*, 108(D15), doi:10.1029/2002JD002832, 2003.
- Tuck, A.F., S.J. Hovde, E.C. Richard, D.W. Fahey, R.S. Gao, and T.P. Bui, A scaling analysis of ER-2 data in the inner Arctic vortex during January-March 2000, *J. Geophys. Res.*, 108(D5), doi: 10.1029/2001JD000879, 2003.
- Tucker, S.C., W.A. Brewer, R.M. Banta, C.J. Senff, S.P. Sandberg, D.C. Law, A. Weickmann, and R.M. Hardesty, Doppler lidar estimation of mixing height using turbulence, shear, and aerosol profiles, *Journal of Atmospheric and Oceanic Technology*, 26(4), 673-688, doi:10.1175/2008JTECHA1157.1, 2009.
- Vakhtin, A.B., D.C. McCabe, A.R. Ravishankara, and S.R. Leone, Low-temperature kinetics of the reaction of the OH radical with hydrogen peroxide, *J. Phys. Chem. A*, 107(49), 10642-10647, doi:10610.11021/jp030424q, 2003.
- van Poppel, L.H., H. Friedrich, J. Spinsby, S.H. Chung, J.H. Seinfeld, and P.R. Buseck, Electron tomography of nanoparticle clusters: Implications for atmospheric lifetimes and radiative forcing of soot, *Geophys. Res. Lett.*, 32(L24811), doi:10.1029/2005GL024461, 2005.
- Velders, G.J.M., D.W. Fahey, J.S. Daniel, M. McFarland, and S.O. Andersen, The large contribution of projected HFC emissions to future climate forcing, *Proc. Nat. Acad. Sci. U.S.A.*, submitted, 2009.
- Velders, G.J.M., S.O. Andersen, J.S. Daniel, D.W. Fahey, and M. McFarland, The Dual Benefit of the Montreal Protocol: Ozone and Climate Protection, in *OzonAction Newsletter*, edited, p. 4 pgs., Paris, (2007).
- Velders, G.J.M., S.O. Andersen, J.S. Daniel, D.W. Fahey, and M. McFarland, The importance of the Montreal Protocol in protecting climate, *Proc. Nat. Acad. Sci. U.S.A.*, 104(12), 4814-4819, doi:4810.1073/pnas.0610328104, 2007.
- Veres, P., J.M. Roberts, D. Walsh-Bon, M.S. Zahniser, S.C. Herndon, R. Fall, and J. de Gouw, Development of Negative-Ion Proton-Transfer Chemical-Ionization Mass Spectrometry (NI-PT-CIMS) for the measurement of gas-phase organic acids in the atmosphere, *Int. J. Mass Spectrom.*, 274, 48-55, doi:10.1016/j.ijms.2008.1004.1032, 2008.
- Verlinde, J., J.Y. Harrington, G.M. McFarquhar, V.T. Yannuzzi, A. Avramov, S. Greenberg, N. Johnson, G. Zhang,

- M.R. Poellot, J.H. Mather, D.D. Turner, E.W. Eloranta, B.D. Zak, A.J. Prenni, J.S. Daniel, G.L. Kok, D.C. Tobin, R. Holz, K. Sassen, D. Spangenberg, P. Minnis, T.P. Tooman, M.D. Ivey, S.J. Richardson, C.P. Bahrmann, M. Shupe, P.J. DeMott, A.J. Heymsfield, and R. Schofield, The mixed-phase Arctic cloud experiment, *Bull. Am. Meteorol. Soc.*, 88(2), 205-221, doi:210.1175/BAMS-1188-1172-1205, 2007.
- Voight, C., H. Schlager, H. Ziereis, B. Kärcher, B.P. Luo, C. Schiller, M. Krämer, P.J. Popp, H. Irie, and Y. Kondo, Nitric acid in cirrus clouds, *Geophys. Res. Lett.*, 33(L05803), doi:10.1029/2005GL025159, 2006.
- Walsh, E.J., M.L. Banner, J.H. Churnside, J.A. Shaw, D.C. Vandemark, C.W. Wright, J.B. Jensen, and S. Lee, Visual demonstration of three-scale sea-surface roughness under light wind conditions, *IEEE Trans. Geosci. Remote Sens.*, 43(8), 1751-1762, doi: 1710.1109/TGRS.2005.851633, 2005.
- Wang, H., W.C. Skamarock, and G. Feingold, Evaluation of scalar advection schemes in the advanced research WRF model using large-eddy simulations of aerosol-cloud interactions, *Mon. Wea. Rev.*, *in press*, doi:10.1175/2009MWR2820.1, 2009.
- Wang, B., M. Shao, J.M. Roberts, G. Yang, F. Yang, M. Hu, L. Zeng, Y. Zhang, and J. Zhang, Ground-based on-line measurements of peroxyacetyl nitrate (PAN) and peroxypropionyl nitrate (PPN), *Environ. Int.*, *submitted*, 2009.
- Wang, H., and G. Feingold, Modeling mesoscale cellular structure and drizzle in marine stratocumulus: Part 1, Impact of drizzle on the formation and evolution of open cells, *J. Atmos. Sci.*, *submitted*, 2009.
- Wang, H., and G. Feingold, Modeling mesoscale cellular structure and drizzle in marine stratocumulus: The microphysics and dynamics of the boundary region between open and closed cells, *J. Atmos. Sci.*, *submitted*, 2009.
- Wang, H., and G.M. McFarquhar, Modeling aerosol effects on shallow cumulus convection under various meteorological conditions observed over the Indian Ocean and implications for development of mass-flux parameterizations for climate models, *J. Geophys. Res.*, 113(D20201), doi:10.1029/2008JD009914, 2008.
- Wang, Q., M. Shao, Y. Liu, W. Kuster, P. Goldan, X. Li, Y. Liu, and S. Lu, Impact of biomass burning on urban air quality estimated by organic tracers: Guangzhou and Beijing as cases, *Atmos. Environ.*, 41(37), 8380-8390, doi:8310.1016/j.atmosenv.2007.8306.8048, 2007.
- Warneke, C., R. Bahreini, J. Brioude, C.A. Brock, J.A. de Gouw, D.W. Fahey, K.D. Froyd, J.S. Holloway, A. Middlebrook, L. Miller, S. Montzka, D.M. Murphy, J. Peischl, T.B. Ryerson, J.P. Schwarz, J.R. Spackman, and P. Veres, Biomass burning in Siberia and Kazakhstan as an important source for haze over the Alaskan Arctic in April 2008, *Geophys. Res. Lett.*, 36(L02813), doi:10.1029/2008GL036194, 2009.
- Warneke, C., S.A. McKeen, J.A. deGouw, P.D. Goldan, W.C. Kuster, J.S. Holloway, E.J. Williams, B.M. Lerner, D.D. Parrish, M. Trainer, F.C. Fehsenfeld, S. Kato, E.L. Atlas, A. Baker, and D.R. Blake, Determination of urban volatile organic compound emission ratios and comparison with an emissions database, *J. Geophys. Res.*, 112(D10S47), doi:10.1029/2006JD007930, 2007.
- Warneke, C., J.A. de Gouw, A. Stohl, O.R. Cooper, P.D. Goldan, W.C. Kuster, J.S. Holloway, E.J. Williams, B.M. Lerner, S.A. McKeen, M. Trainer, F.C. Fehsenfeld, E.L. Atlas, S.G. Donnelly, V. Stroud, A. Lueb, and S. Kato, Biomass burning and anthropogenic sources of CO over New England in the summer 2004, *J. Geophys. Res.*, 111(D23S15), doi:10.1029/2005JD006878, 2006.
- Warneke, C., J.A. de Gouw, E.R. Lovejoy, P.C. Murphy, W.C. Kuster, and R. Fall, Development of proton transfer ion trap-mass spectrometry: On-line detection and identification of volatile organic compounds in air, *Journal of the American Society for Mass Spectrometry*, 16, 1316-1324, doi:1310.1016/j.jasms.2005.1303.1025, 2005.
- Warneke, C., S. Kato, J.A. de Gouw, P.D. Goldan, W.C. Kuster, M. Shao, E.R. Lovejoy, R. Fall, and F.C. Fehsenfeld, Online volatile organic compound measurements using a newly developed proton-transfer ion-

trap mass spectrometry instrument during New England Air Quality Study–Intercontinental Transport and Chemical Transformation 2004: Performance, intercomparison, and compound identification, *Environ. Sci. Technol.*, 39(14), 5390-5397, doi:5310.1021/es050602o, 2005.

Warneke, C., J.A. de Gouw, P.D. Goldan, W.C. Kuster, E.J. Williams, B.M. Lerner, R. Jakubek, S.S. Brown, H. Stark, M. Aldener, A.R. Ravishankara, J.M. Roberts, M. Marchewka, S. Bertman, D.T. Sueper, S.A. McKeen, J.F. Meagher, and F.C. Fehsenfeld, Comparison of daytime and nighttime oxidation of biogenic and anthropogenic VOCs along the New England coast in summer during New England Air Quality Study 2002, *J. Geophys. Res.*, 109(D10309), doi:10.1029/2003JD004424, 2004.

Warneke, C., S. Rosén, E.R. Lovejoy, J.A. de Gouw, and R. Fall, Two additional advantages of proton-transfer ion trap mass spectrometry, Letter to the Editor, *Rapid Communications in Mass Spectrometry*, 18, 133-134, 2004.

Warneke, C., J.A. de Gouw, W.C. Kuster, P.D. Goldan, and R. Fall, Validation of atmospheric VOC measurements by Proton-Transfer-Reaction Mass Spectrometry using a gas-chromatographic preseparation method, *Environ. Sci. Technol.*, 37(11), 2494-2501, Doi: 2410.1021/es026266i, 2003.

Washenfelder, R.A., A.O. Langford, H. Fuchs, and S.S. Brown, Measurement of glyoxal using incoherent broadband cavity enhanced absorption spectroscopy, *Atmos. Chem. Phys. Disc.*, 8(4), 16517-16553, 2008.

Weber, R.J., A.P. Sullivan, R.E. Peltier, A. Russell, B. Yan, Y. Chen, M. Zheng, J. de Gouw, C. Warneke, C. Brock, J.S. Holloway, E.L. Atlas, and E. Edgerton, A study of secondary organic aerosol formation in the anthropogenic-influenced southeastern United States, *J. Geophys. Res.*, 112(D13302), doi:10.1029/2007JD008408, 2007.

Weinstock, J., G.P. Klaassen, and A.S. Medvedev, Reply to "Comments on the gravity wave theory of J. Weinstock concerning dissipation induced by nonlinear effects", *J. Atmos. Sci.*, 64(3), 1027-1041, 2007.

Weinstock, J., Ionosphere, in *Encyclopedia of Physics, Third, Completely Revised and Enlarged Edition*, edited by G.L.T. R.G. Lerner, pp. 1143-1145, Wiley-VCH Verlag GmbH & Co. KGaA, Weinheim, Germany, (2005).

Wert, B.P., M. Trainer, A. Fried, T.B. Ryerson, B. Henry, W. Potter, W.M. Angevine, E. Atlas, S.G. Donnelly, F.C. Fehsenfeld, G.J. Frost, P.D. Goldan, A. Hansel, J.S. Holloway, G. Hübner, W.C. Kuster, D.K. Nicks, Jr., J.A. Neuman, D.D. Parrish, S. Schauffler, J. Stutz, D.T. Sueper, C. Wiedinmyer, and A. Wisthaler, Signatures of terminal alkene oxidation in airborne formaldehyde measurements during TexAQS 2000, *J. Geophys. Res.*, 108(D3), doi:10.1029/2002JD002502, 2003.

White, A.B., L.S. Darby, C.J. Senff, C.W. King, R.M. Banta, J. Koermer, J.M. Wilczak, P.J. Neiman, W.M. Angevine, and R. Talbot, Comparing the impact of meteorological variability on surface ozone during the NEAQS (2002) and ICARTT (2004) field campaigns, *J. Geophys. Res.*, 112(D10S14), doi:10.1029/2006JD007590, 2007.

White, A.B., C.J. Senff, A.N. Keane, L.S. Darby, I.V. Djalalova, D.C. Ruffieux, D.E. White, B.J. Williams, and A.H. Goldstein, A wind profiler trajectory tool for air quality transport applications, *J. Geophys. Res.*, 111(D23S23), doi:10.1029/2006JD007475, 2006.

Wiedinmyer, C., X. Tie, A. Guenther, R. Neilson, and C. Granier, Future changes in biogenic isoprene emissions: How might they affect regional and global atmospheric chemistry?, *Earth Interactions.*, 10(3), 1-19, 2006.

Wilczak, J., S. McKeen, I. Djalalova, G. Grell, S. Peckham, W. Gong, V. Bouchet, R. Moffet, J. McHenry, J. McQueen, P. Lee, Y. Tang, and G.R. Carmichael, Bias-corrected ensemble and probabilistic forecasts of surface ozone over eastern North America during the summer of 2004, *J. Geophys. Res.*, 111(D23S28), doi:10.1029/2006JD007598, 2006.

Williams, E.J., B. Lerner, P.C. Murphy, S. Herndon, and M.S. Zahniser, Emissions of NO_x, SO₂, CO, H₂CO and C₂H₄ from commercial marine shipping during TexAQS 2006, *J. Geophys. Res.*, submitted, 2009.

- Williams, E.J., F.C. Fehsenfeld, B.T. Jobson, W.C. Kuster, P.D. Goldan, J. Stutz, and W.A. McClenney, Comparison of ultraviolet absorbance, chemiluminescence, and DOAS instruments for ambient ozone monitoring, *Environ. Sci. Technol.*, 40(18), doi:10.1021/es0523542, 2006.
- Williams, C.R., K.S. Gage, W.L. Clark, and P. Kucera, Monitoring the reflectivity calibration of a scanning radar using a profiling radar and a disdrometer, *Journal of Atmospheric and Oceanic Technology*, 22(7), 1004-1018, doi:10.1175/JTECH1759.1001, 2005.
- Wilson, J.C., S.-H. Lee, J.M. Reeves, C.A. Brock, H.H. Jonsson, B.G. Lafleur, M. Loewenstein, J. Podolske, E. Atlas, K. Boering, G. Toon, D. Fahey, T.P. Bui, G. Diskin, and F. Moore, Steady-state aerosol distributions in the extra-tropical, lower stratosphere and the processes that maintain them, *Atmos. Chem. Phys.*, 8(1), 6617-6626, doi:1680-7375/acpd/2008-8-6617, 2008.
- Wilson, J.C., B.G. Lafleur, H. Hilbert, W.R. Seebaugh, J. Fox, D.W. Gesler, C.A. Brock, B.J. Huebert, and J. Mullen, Function and performance of a low turbulence inlet for sampling supermicron particles from aircraft platforms, *Aerosol Sci. Technol.*, 38, 790-802, doi:710.1080/027868290500841, 2004.
- Wise, M.E., S.D. Brooks, R.M. Garland, D.J. Cziczo, S.T. Martin, and M.A. Tolbert, Solubility and freezing effect of Fe^{2+} and Mg^{2+} in H_2SO_4 solutions representative of upper tropospheric and lower stratospheric sulfate particles, *J. Geophys. Res.*, 108(D14), doi:10.1029/2003JD003420, 2003.
- Wolfe, D.E., W.A. Brewer, S.C. Tucker, A.B. White, D.E. White, D.C. Welsh, D. Ruffieux, C.W. Fairall, M. Ratterree, J.M. Intrieri, B.J. McCarty, and D.C. Law, Shipboard multisensor merged wind profiles from the New England Air Quality Study 2004, *J. Geophys. Res.*, 112(D10S15), doi:10.1029/2006JD007344, 2007.
- Wood, E.C., S.C. Herndon, T.B. Onasch, J.H. Kroll, M.R. Canagaratna, C. Kolb, D. Worsnop, A. Neuman, R. Seila, M.A. Zavala, and W.B. Knighton, A case study of ozone production, nitrogen oxides, and the radical budget in Mexico City, *Atmos. Chem. Phys.*, submitted, 2009.
- Xue, H., G. Feingold, and B. Stevens, Aerosol effects on clouds, precipitation, and the organization of shallow cumulus convection, *J. Atmos. Sci.*, 65(2), 392-406, doi:310.1175/2007AS2428.1171, 2008.
- Xue, H., and G. Feingold, Large-eddy simulations of trade wind cumuli: Investigation of aerosol indirect effects, *J. Atmos. Sci.*, 63(6), 1605-1622, doi:1610.1175/JAS3706.1601, 2006.
- Yang, Z., R.A. Washenfelder, G. Keppel-Aleks, N.Y. Krakauer, J.T. Randerson, P.P. Tans, C. Sweeney, and P.O. Wennberg, New constraints on Northern Hemisphere growing season net flux, *Geophys. Res. Lett.*, 34(L122807), doi:10.1029/2007GL029742, 2007.
- Yang, J., R.E. Honrath, M.C. Peterson, D.D. Parrish, and M. Warshawsky, Photostationary state deviation-estimated peroxy radicals and their implications for HO_x and ozone photochemistry at a remote northern Atlantic coastal site, *J. Geophys. Res.*, 109(D02312), doi:10.1029/2003JD003983, 2004.
- Yin, Y., K.S. Carslaw, and G. Feingold, Vertical transport and processing of aerosols in a mixed-phase convective cloud and the feedback on cloud development, *Quart. J. Roy. Meteorol. Soc.*, 131(605), 221-245, doi:210.10256/qj.10203.10186, 2005.
- Yu, H., Y.J. Kaufman, M. Chin, G. Feingold, L.A. Remer, T.L. Anderson, Y. Balkanski, N. Bellouin, O. Boucher, S. Christopher, P. DeCola, R. Kahn, D. Koch, N. Loeb, M.S. Reddy, M. Schulz, T. Takemura, and M. Zhou, A review of measurement-based assessments of the aerosol direct radiative effect and forcing, *Atmos. Chem. Phys.*, 6(3), 613-666, 2006.
- Yu, H., Y.J. Kaufman, M. Chin, G. Feingold, L.A. Remer, T.L. Anderson, Y. Balkanski, N. Bellouin, O. Boucher, S. Christopher, P. DeCola, R. Kahn, D. Koch, N. Loeb, M.S. Reddy, M. Schulz, T. Takemura, and M. Zhou, A review of measurement-based assessment of aerosol direct radiative effect and forcing, *Atmos. Chem. Phys. Disc.*, 5, 7647-7768, doi:1680-7375/acpd/2005-7645-7647, 2005.

Zamora, R.J., E.G. Dutton, M. Trainer, S.A. McKeen, J.M. Wilczak, and Y.-T. Hou, The accuracy of solar irradiance calculations used in mesoscale numerical weather prediction, *Mon. Wea. Rev.*, 133(4), 783-792, doi:710.1175/MWR2886.1171, 2005.

Zamora, R.J., S. Solomon, E.G. Dutton, J.W. Bao, M. Trainer, R.W. Portmann, A.B. White, D.W. Nelson, and R.T. McNider, Comparing MM5 radiative fluxes with observations gathered during the 1995 and 1999 Nashville southern oxidants studies, *J. Geophys. Res.*, 108(D2), doi:10.1029/2002JD002122, 2003.

Zanis, P., T. Trickl, A. Stohl, H. Wernli, O. Cooper, C. Zerefos, H. Gaeggeler, C. Schnabel, L. Tobler, P.W. Kubik, A. Priller, H.E. Scheel, H.J. Kanter, P. Cristofanelli, C. Forster, P. James, E. Gerasopoulos, A. Delcloo, A. Papayannis, and H. Claude, Forecast, observation and modelling of a deep stratospheric intrusion event over Europe, *Atmos. Chem. Phys.*, 3, 763-777, 2003.

Zhang, X., F.W. Zwiers, G.C. Hegerl, F.H. Lambert, N.P. Gilett, S. Solomon, P.A. Stott, and T. Nozawa, Detection of human influence on twentieth-century precipitation trends, *Nature*, 448(7152), 461-465, doi:410.1038/nature06025, 2007.

Zhu, L., R.K. Talukdar, J.B. Burkholder, and A.R. Ravishankara, Rate coefficients for the OH + acetaldehyde (CH_3CHO) reaction between 204 and 373 K, *Int. J. Chem. Kin.*, 40, 635-646, doi:10.1002/kin.20346, 2008.

Zobrist, B., C. Marcolli, T. Koop, B.P. Luo, D.M. Murphy, U. Lohmann, A.A. Zardini, U.K. Krieger, T. Corti, D.J. Cziczo, S. Fueglistaler, P.K. Hudson, D.S. Thomson, and T. Peter, Oxalic acid as a heterogeneous ice nucleus in the upper troposphere and its indirect aerosol effect, *Atmos. Chem. Phys.*, 6(10), 3115-3129, 2006.

Zuidema, P., H. Xue, and G. Feingold, Shortwave radiative impacts from aerosol effects on marine shallow cumuli, *J. Atmos. Sci.*, 65, doi:10.1175/2007JAS2447.1171, 2008.

Zuidema, P., B. Baker, Y. Han, J.M. Intrieri, J.R. Key, P. Lawson, S.Y. Matrosov, M. Shupe, R.S. Stone, and T. Uttal, An Arctic springtime mixed-phase cloudy boundary layer observed during SHEBA, *J. Atmos. Sci.*, 62(1), 160-176, doi:110.1175/JAS-3368.1171, 2005.