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**INTEX-ICARTT-ITCT:**

★ Livingston, J., B. Schmid, J. Redemann, P. B. Russell, S. A. Ramirez, J. Eilers, W. Gore, S. Howard, J. Pommier, E. J. Fetzer, S. W. Seemann, E. Borbas, D. Wolfe, *Comparison of Water Vapor Measurements by Airborne Sunphotometer and Near-Coincident In Situ and Satellite Sensors during INTEX-ITCT 2004*, *J. Geophys. Res.*, 112, D12S16, doi:10.1029/2006JD007733.

★ Redemann, J., P. Pilewskie, P. B. Russell, J. M. Livingston, S. Howard, B. Schmid, J. Pommier, W. Gore, J. Eilers, M. Wendisch, *Airborne measurements of spectral direct aerosol radiative forcing in the Intercontinental chemical Transport Experiment/Intercontinental Transport and Chemical Transformation of anthropogenic pollution, 2004*, *J. Geophys. Res.* 111, D14210, doi:10.1029/2005JD006812, 2006.

★ Russell, P.B., J.M. Livingston, J. Redemann, B. Schmid, S.A. Ramirez, J. Eilers, R. Khan, A. Chu, L. Remer, P.K. Quinn, M.J. Rood, W. Wang, *Multi-Grid-Cell Validation of Satellite Aerosol Property Retrievals in INTEX/ITCT/ICARTT 2004*, *J. Geophys. Res.*, 112, D12S09, doi:10.1029/2006JD007606.

**EVE:**

★ Redemann, J., Q. Zhang, B. Schmid, P. B. Russell, J. M. Livingston, H. Jonsson, and L. A. Remer (2006), *Assessment of MODIS-derived visible and near-IR aerosol optical properties and their spatial variability in the presence of mineral dust*, *Geophys. Res. Lett.*, 33, L18814, doi:10.1029/2006GL026626, 2006.

**ARM Aerosol IOP:**

★ Schmid, B., R. Ferrare, C. Flynn, R. Elleman, D. Covert, A. Strawa, E. Welton, D. Turner, H. Jonsson, J. Redemann, J. Eilers, K. Ricci, A. G. Hallar, M. Clayton, J. Michalsky, A. Smirnov, B. Holben, J. Barnard.: *How well do state-of-the-art techniques measuring the vertical profile of tropospheric aerosol extinction compare?*, *J. Geophys. Res.*, doi: 2005JD005837, 2006.

**SOLVE II:**

★ Livingston, J.M., B. Schmid, P.B. Russell, J. Redemann, J.R. Podolske, and G.S. Diskin, 2008: *Comparison of Water Vapor Measurements by Airborne Sun Photometer and Diode Laser Hygrometer on the NASA DC-8*. *J. Atmos. Oceanic Technol.*, 25, 1733-1743, doi: 10.1175/2008JTECH1047.1.

★ Livingston, J., Schmid, B., Russell, P., Eilers, J., Kolyer, R., Redemann, J., Ramirez, S., Yee, J.-H., Trepte, C., Thomason, L., Pitts, M., Avery, M., Randall, C., Lumpe, J., Bevilacqua, R., Bittner, M., Erbetseder, T., McPeters, R., Shetter, R., Kerr, J., and Lamb, K.: *Retrieval of ozone column content from airborne Sun photometer measurements during SOLVE II: Comparison with coincident satellite and aircraft measurements*, *Atmos. Chem. Phys.*, 5, 2035-2054, 2005 SRef-ID:1680-7324/acp/2005-5-2035, [www.atmos-chem-phys.org/acp/5/2035/](http://www.atmos-chem-phys.org/acp/5/2035/).

★ P. Russell, J. Livingston, B. Schmid, J. Eilers, R. Kolyer, J. Redemann, S. Ramirez, J.-H. Yee, W. Swartz, R. Shetter, C. Trepte, A. Risley Jr., B. Wenny, J. Zawodny, W. Chu, M. Pitts, J. Lumpe, M. Fromm, C. Randall, K. Hoppel, R. Bevilacqua, *Aerosol optical depth measurements by airborne sun photometer in SOLVE II: Comparisons to SAGE III, POAM III and airborne spectrometer measurements*, *Atmos. Chem. Phys.*, 5, 1311-1339, 2005 SRef-ID:1680-7324/acp/2005-5-1311, [www.atmos-chem-phys.org/acp/5/1311/](http://www.atmos-chem-phys.org/acp/5/1311/).

**CLAMS:**

★ Redemann, J., B. Schmid, J.A. Eilers, R. Kahn, R.C. Levy, P.B. Russell, J.M. Livingston, P.V. Hobbs, W.L. Smith Jr., B.N. Holben, *Suborbital measurements of spectral aerosol optical depth and its variability at sub-satellite-grid scales in support of CLAMS, 2001*, *J. Atmos. Sci.*, Vol. 62, No. 4, pp. 993-1007, doi: 10.1175/JAS3387.1, 2004.

**ACE-Asia:**

★ Bergstrom, R.W., P. Pilewskie, J. Pommier, M. Rabbette, P.B. Russell, B. Schmid, J. Redemann, A. Higurashi, T. Nakajima, P.K. Quinn, *Spectral Absorption of Solar Radiation By Aerosols during ACE-Asia*, *J. Geophys. Res.*, 109, D19S15, doi:10.1029/2003JD004467, 2003.

★ Redemann, J., S. Masonis, B. Schmid, T. Anderson, P. Russell, J. Livingston, O. Dubovik, A. Clarke, *Clear-column closure studies of aerosols and water vapor aboard the NCAR C-130 in ACE-Asia, 2001*, *J. Geophys. Res.* 108 (D23), 8655, doi:10.1029/2003JD003442, 2003

★ Schmid B., D. A. Hegg, J. Wang, D. Bates, J. Redemann, P. B. Russell, J. M. Livingston, H. H. Jonsson, E. J. Welton, J. H. Seinfeld, R. C. Flagan, D. S. Covert, O. Dubovik, A. Jefferson, *Column closure studies of lower tropospheric aerosol and water vapor during ACE-Asia using airborne Sun photometer and airborne in situ and ship-based lidar measurements*, *J. Geophys. Res.*, 108(D23), 8656, doi:10.1029/2002JD003361, 2003.

**SAFARI 2000:**

★ Bergstrom, R. W., P. Pilewskie, B. Schmid, and P. B. Russell, [Estimates of the spectral aerosol single scattering albedo and aerosol radiative effects during SAFARI 2000](#), *J. Geophys. Res.*, 108(D13), 8474, doi:10.1029/2002JD002435, 2003

★ Schmid B., J. Redemann, P. B. Russell, P. V. Hobbs, D. L. Hlavka, M. J. McGill, B. N. Holben, E. J. Welton, J. R. Campbell, O. Torres, R. A. Kahn, D. J. Diner, M. C. Helmlinger, D. A. Chu, C. Robles Gonzalez, and G. de Leeuw, [Coordinated airborne, spaceborne, and ground-based measurements of massive, thick aerosol layers during the dry season in Southern Africa](#), *J. Geophys. Res.*, 108(D13), 8496, doi:10.1029/2002JD002297, 2003

**PRIDE:**

★ Livingston, J. M., P. B. Russell, J.S. Reid, J. Redemann, B. Schmid, D. A. Allen, O. Torres, R.C. Levy, L. A. Remer, B. N. Holben, A. Smirnov, O. Dubovik, E. J. Welton, J. R. Campbell, J.Wang, S.A. Christopher, [Airborne Sun photometer measurements of aerosol optical depth and columnar water vapor during the Puerto Rico Dust Experiment and comparison with land, aircraft, and satellite measurements](#), *J. Geophys. Res.*, 108(D19), 8588, doi:10.1029/2002JD002520, 2003.

**ACE-2:**

★ Livingston, J. M., V. Kapustin, B. Schmid, P. B. Russell, P. K. Quinn, T. S. Bates, P. A. Durkee, P. J. Smith, V. Freudenthaler, D. S. Covert, S. Gassó, D. A. Hegg, D. R. Collins, R. C. Flagan, J. H. Seinfeld, V. Vitale, and C. Tomasi, [Shipboard sunphotometer measurements of aerosol optical depth spectra and columnar water vapor during ACE 2 and comparison to selected land, ship, aircraft, and satellite measurements](#), *Tellus*, B 52, 594-619, 2000.

★ Schmid, B., J. M. Livingston, P. B. Russell, P. A. Durkee, H. H. Jonsson, D. R. Collins, R. C. Flagan, J. H. Seinfeld, S. Gassó, D. A. Hegg, E. Oström, K. J. Noone, E. J. Welton, K. J. Voss, H. R. Gordon, P. Formenti, and M. O. Andreae, [Clear sky closure studies of lower tropospheric aerosol and water vapor during ACE 2 using airborne sunphotometer, airborne in-situ, space-borne, and ground-based measurements](#), *Tellus*, B 52, 568-593, 2000.

**TARFOX:**

★ Redemann, J., R. P. Turco, K. N. Liou, P. B. Russell, R. W. Bergstrom, B. Schmid, J. M. Livingston, P. V. Hobbs, W. S. Hartley, S. Ismail, R. A. Ferrare, E. V. Browell, [Retrieving the Vertical Structure of the Effective Aerosol Complex Index of Refraction >From a Combination of Aerosol In Situ and Remote Sensing Measurements During TARFOX](#), *J. Geophys. Res.*, 105(D8), 9949-9970, 2000.

**Multi-Experiment / Other :**

★ R.W. Bergstrom, P. Pilewskie, P.B. Russell, J. Redemann, T.C. Bond, P.K. Quinn, and B. Sierau, [Spectral absorption properties of atmospheric aerosols](#), *Atmos. Chem. Phys.*, 7, 5937-5943, 2007.

★ Hamill, P., Redemann, J., [Validation of Satellite Borne Lidar Systems by Ground Based and Airborne Instruments](#), *Optica Pura Y Aplicada*, Vol. 39, num. 1-2006-3rd Workshop LIDAR Measurements in Latin America, 2006.

★ Russell, P.B., J. M. Livingston, O. Dubovik, S. A. Ramirez, J. Wang, J. Redemann, B. Schmid, M. Box, B. N. Holben, [Sunlight transmission through desert dust and marine aerosols: Diffuse light corrections to Sun photometry and pyrrometry](#), *J. Geophys. Res.*, 109, D08207, doi:10.1029/2003JD004292, 2003

★ Bauman, J. J., P. B. Russell, M. A. Geller, and P. Hamill, [A stratospheric aerosol climatology from SAGE II and CLAES measurements: 1. Methodology](#), *J. Geophys. Res.*, 108(D13), 4382, doi:10.1029/2002JD002992, 2003.

★ Bauman, J. J., P. B. Russell, M. A. Geller, and P. Hamill, [A stratospheric aerosol climatology from SAGE II and CLAES measurements: 2. Results and comparisons, 19841999](#), *J. Geophys. Res.*, 108(D13), 4383, doi:10.1029/2002JD002993, 2003.

★ Russell P. B., J. Redemann, B. Schmid, R. W. Bergstrom, J. M. Livingston, D. M. McIntosh, S. Hartley, P. V. Hobbs, P. K. Quinn, C. M. Carrico, M. J. Rood, E. Oström, K. J. Noone, W. von Hoyningen-Huene, and L. Remer, [Comparison of aerosol single scattering albedos derived by diverse techniques in two North Atlantic experiments](#), *J. Atmos. Sci.*, Vol. 59, No. 3, 609-619, 2002.

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