Gregory Ben Osterman

Jet Propulsion Laboratory MS 233-200 4800 Oak Grove Drive Pasadena, CA 91109 Phone: (818) 354-3641 Email:

Email: Gregory.Osterman@jpl.nasa.gov

Education:

Ph.D. in Physics, University of Texas at Dallas, Richardson, Texas, 1994. MS in Physics, Texas Tech University, Lubbock, Texas, 1990. BS in Physics, Texas A&M University, College Station, Texas, 1987.

Professional Experience:

September, 2005 – Present: Scientist, Senior Member Technical Staff – Jet Propulsion Laboratory (JPL)

September, 1998 – September, 2005: Member Technical Staff – JPL

September, 1995 – September 1998: Postdoctoral Researcher – California Institute of Technology.

Work Responsibilities and Relevant Experience

Currently work as a member of the JPL Orbiting Carbon Observatory-2 (OCO-2) and Orbiting Carbon Observatory-3 (OCO-3) Science Teams. Currently working as a member of Tropospheric Emission Spectrometer (TES) Science Team doing validation analysis for ozone and trace gas measurements.

- Validation Lead (OCO-2, 2010-Present): Responsible for helping to develop and execute the OCO-2 validation plan. Work includes working with outside research groups to ensure that data will be available for use in validation analysis. Helped perform validation analysis, wrote and edited documentation detailing the OCO-2 validation plans and data user information. Lead small teams of scientists to execute project tasks associated with validation. Managed the validation program budget. Worked with NASA and NOAA aircraft campaigns to coordinate measurements, data sharing and analysis.
- Validation Team (OCO-3, 2017-Present): Responsibilities similar to those on OCO-2. Helping with validation analysis and planning. Continued work with outside research groups to obtain and utilize validation data.
- Validation Lead of Western States Water Mission (2016-2017): Responsible for leading the development of a validation plan and process for the JPL Western States Water Mission (WSWM). The work involved assisting JPL Hydrologists in utilizing different existing data sets to validate the WSWM assimilation model results. Helped with preliminary validation analysis, documentation and data user information
- Member of the Scientific, Technical & Modeling Peer Review Advisory Group (STMPR) for the South Coast Air Quality Management District (2011 – Present): Advised SCAQMD on the use of satellite data in their air quality management modeling and analysis. Participated in panel discussions designed to provide feedback on SCAMD modeling efforts.

- Air Quality Applications Lead (TES, 2004-2011): Responsible for developing collaborations for utilizing TES data with groups in the air quality modeling/forecasting community. Developed collaborations with agencies such as the Texas Commission on Environmental Quality, Environmental Protection Agency, NOAA and the University of Houston.
- Validation Lead (TES, 2004-2011): Responsible for coordinating the effort to validate TES Level 2 products. This required working with a variety of different groups in the atmospheric chemistry community and keeping current on other satellite instruments and aircraft campaigns that provide validation data for TES.

Selected Publications

Osterman GB, Kulawik, SS, Worden, HM, Richards, NAD, Fisher, BM, Eldering, A, Shephard, MW, Froidevaux, L, Labow, G, Luo, M, Herman, RL, Bowman, KW, Thompson, AM, **2011**, Validation of Tropospheric Emission Spectrometer (TES) measurements of the total, stratospheric and tropospheric column abundance of ozone, *J. Geophys, Res. Atmos.*, 113/D15.

Osterman GB, Heelis, RA, Bailey GJ, **1998**, Effects of wind-induced ionization layers on ionospheric electrodynamics, *Journal of Atmospheric and Solar-Terrestrial Physics*, 60/1, 107-113.

Osterman GB, Salawitch, RJ, Sen, B, Toon, GC, Stachnik, RA, Pickett, HM, Margitan, JJ, Blavier, JF, Perterson DB, **1997**, Balloon-borne measurments of stratospheric radicals and their precursors: Implications for the production and loss of ozone, *Geophysical Research Letters*, 24/9, 1107-1110.

Osterman GB, Heelis, RA, Bailey, GJ, **1995**, Effects of zonal winds and metallic ions on the behavior of intermediate layers, *Journal of Geophysical Research-Space Physics*, 100/A5, 7829-7838.

Osterman GB, Heelis, RA, Bailey, GJ, **1994**, Modeling the formation of intermediate layers at Arecibo latitudes, *Journal of Geophysical Research-Space Physics*, 99/A6, 11357-11365.

Wunch, D, Wennberg PO, **Osterman G**, Fisher, B, Naylor, B, Roehl, CM, O'Dell, C, Mandrake, L, Viatte, C, Kel, M, Griffith, DWT, Deutscher, NM, Velazco, VA, Notholt, J, Warneke, T, Petri, C, De Maziere, M, Sah MK, Sussmann, R, Rettinger, M, Dollard, D, Robinson, J, Morino, I, Uchino, O, Hase, F, Blumenstock, T, Feist, DG, Arnold, SG, Stron, K, Mendoca, J, Kivi, R, Heikkinen, P, Iraci, L, Podolske, J, Hillyard, P, Kawakami, S, Dube, MK, Parker, HA, Sepulveda, E, Garcia, OE, Te, Y, Jeseck, P, Gunson, MR, Crisp, D, Eldering, A, **2017**, Comparisons of the Orbiting Carbon Observatory-2 (OCO-2) X-CO2 measurements with TCCON, *Atmospheric Measurement Technology*, 10, 2209-2238.

Wunch, D, Wennberg, PO, Toon GC, Connor, BJ, Fisher, B, **Osterman GB**, Frankenberg, C, Mandrake, L, O'Dell, C, Ahonen, P, Biraud, SC, Castano, R, Cressie, N, Crisp, D, Deutscher, NM, Heikkinen, P, Keppel-Aleks, G, Kyro, E, Lindenmaier, R, Macatangay, R, Mendonca, J, Messerschmidt, J, Miller, CE, Morino, I, Notholt, J, Oyafuso, FA, Rettinger, M, Robinson, J, Roehl, CM, Salawitch, RJ, Sherlock, V, Strong, K, Sussmann, R, Tanaka, T, Thompson, DR, Uchino, O, Warneke, T, Wofsy SC, **2011**, A method for evaluation bias in global measurements of CO2 total columns from space, *Atmospheric Chemistry and Physics*, 11, 23, 12317-12337. Eldering, A, Wennberg, PO, Crisp, D, Schimel, DS, Gunson, MR, Chatterjee, A, Liu, J, Schwandner, FM, Sun, Y, O'Dell, CW, Frankenberg, C, Taylor, T, Fisher, B, **Osterman, GB**, Wunch, D, Hakkarainen, J, Tamminen, J, Weir, B, **2017**, The Orbiting Carbon Observatory-2 early science investigations of regional carbon dioxide fluxes, *Science*, 358/6360.

Schwandner FM, Gunson, MR, Miller, CE, Carn SA, Eldering, A, Krings, T, Verhulst, KR, Schimel, DS, Nguyen, HM, Crisp, D, O'Dell, CW, **Osterman, GB**, Iraci, LT, Podolske JR, **2017**, Spaceborne detection of localized carbon dioxide sources, *Science*, 358/6360.