

Thomas Pongetti

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EXPERIENCE

Thomas Pongetti has more than fifteen years of experience in atmospheric observations. He has played a key role in all stages of FTS remote sensing at both Table Mountain and Mount Wilson Observatories and the in situ measurement network of the Megacities Carbon Project. He has made major contributions to instrument design and the infrastructure of the remote sensing and in situ sites at mountain observatories and several roof top and tower sites in the LA basin. He has proficiency in optical systems, detectors, coatings, and alignments; recently serving as the optical ground support engineer on the OCO-3 TVac testing. His automation of the control and data acquisition of the CLARS-FTS and FTUVS has allowed for continuous operation every clear day of the year. He possesses intimate knowledge of every level of the atmospheric absorption retrieval process and plays a key role in the algorithm development for all data products originating from these spectrometers. He has organized, formatted, and quality checked the large data sets so new data is quickly shared with other users or posted publicly. In addition to his scientific R&D contributions he also serves as the site engineer at the CLARS and FTUVS observation facilities leading in all electrical, optical, and mechanical endeavors at each location.

EDUCATION

M.S., Physics, CSU Fullerton	2005
B.S., Physics, CSU Fullerton	2001

PROFESSIONAL EXPERIENCE

Jet Propulsion Laboratory, California Institute of Technology

Technologist	2016- present
Scientist	2009–2016
Technical Staff	2002–2009

PUBLICATIONS

1. K. Verhulst, A. Karion, J. Kim, P. Salameh, R. Keeling, S. Newman, J. Miller, C. Sloop, T. Pongetti, P. Rao, C. Wong, F. Hopkins, V. Yadav, R. Weiss, R. Duren, and C. Miller: In Situ Carbon Dioxide and Methane Measurements from the Los Angeles Megacity Carbon Project: 1. Calibration, Urban Enhancements, and Uncertainty Estimates, Atmos. Chem. Phys. Discuss., acp-2016-850 In Review.
2. Zeng, Z.-C., Zhang, Q., Natraj, V., Margolis, J. S., Shia, R.-L., Newman, S., Fu, D., Pongetti, T. J., Wong, K. W., Sander, S. P., Wennberg, P. O., and Yung, Y. L.: Aerosol scattering effects on water vapor retrievals over the Los Angeles Basin, Atmos. Chem. Phys., 17, 2495-2508, doi:10.5194/acp-17-2495-2017, 2017.
3. Wong, C. K., Pongetti, T. J., Oda, T., Rao, P., Gurney, K. R., Newman, S., Duren, R. M., Miller, C. E., Yung, Y. L., and Sander, S. P.: Monthly trends of methane emissions in Los

Angeles from 2011 to 2015 inferred by CLARS-FTS observations, *Atmos. Chem. Phys.*, 16, 13121-13130, doi:10.5194/acp-16-13121-2016, 2016.

4. Zhang, Q., V. Natraj, K.-F. Li, R.-L. Shia, D. Fu, T. J. Pongetti, S. P. Sander, C. M. Roehl, and Y. L. Yung (2015), Accounting for aerosol scattering in the CLARS retrieval of column averaged CO₂ mixing ratios. *J. Geophys. Res. Atmos.*, 120, 7205–7218. doi: 10.1002/2015JD023499.

5. Wong, K. W., Fu, D., Pongetti, T. J., Newman, S., Kort, E. A., Duren, R., Hsu, Y.-K., Miller, C. E., Yung, Y. L., and Sander, S. P.: Mapping CH₄ : CO₂ ratios in Los Angeles with CLARS-FTS from Mount Wilson, California, *Atmos. Chem. Phys.*, 15, 241-252, doi:10.5194/acp-15-241-2015, 2015.

6. Fu D., Pongetti T.J., Blavier J-F L., Crawford T.J., Manatt K.S., Toon G.C., Wong C., Sander S.P., "Near-Infrared Remote Sensing of Los Angeles Trace Gas Distributions from a Mountaintop Site", 6, 8807 - 8854, *Atmos. Meas. Tech. Discussion*, 2013.

7. Wang, S.; Li, K.-F.; Pongetti, T. J.; Sander, S. P.; Yung, Y. L.; Liang, M.-C.; Livesey, N. J.; Santee, M. L.; Harder, J. W.; Snow, M.; Mills, F. P.; Atmospheric OH response to the most recent 11-year solar cycle, *Proc. Natl. Acad. Sci.*, 2013, 110, 2023-2028.

8. T. Leblanc, T. D. Walsh, I. S. McDermid, G. Toon, J.-F. Blavier, B. Haines, W. G. Read, B. Herman, E. Fetzer, S. Sander, T. Pongetti, D. N. Whiteman, T. G. McGee, L. Twigg, G. Sumnicht, Demetrius Venable, Monique Calhoun, A. Dirisu, D. Hurst, A. Jordan, E. Hall, L. Miloshevich, H. Vömel, C. Straub, N. Kampf, G.E. Nedoluha, R. M. Gomez, K. Holub, S. Gutman, J. Braun, T. Vanhove, G. Stiller, and A. Hauchecorne; Measurements of Humidity in the Atmosphere and Validation Experiments (MOHAVE)-2009: Review of campaign operations and results, *Atmos. Meas. Tech*, 2011.

9. Wang, S., Pongetti, T.J., Sander, S.P., Spinei, E., Mount, G.H., Cede, Alexander, and Herman, J., Direct Sun measurements of NO₂ column abundances from Table Mountain, California: Intercomparison of low- and high-resolution spectrometers. *J. Geophys. Res.*, 2010, 115, doi:10.1029/2009JD013503.

10. Cheung, R.; Li, K.; Wang, S.; Pongetti, T.; Cageao, R.; Sander, S. and Yung, Y.; An improved retrieval method for atmospheric hydroxyl (OH) abundances from ground-based ultraviolet solar spectra, *Appl. Optics*, 2008, 47, 6277-6284.

11. Wang, S.; Pickett, H.; Pongetti, T.; Cheung, R.; Yung, Y.; Shim, C.; Li, Q.; Canty, T.; Salawitch, R.; Jucks, K.; Drouin, B. and Sander, S. Validation of Aura MLS OH measurements with FTUVS total OH column measurements at Table Mountain, California, *J. Geophys. Res.*, 2008, 113, doi:10.1029/2008JD009883.

12. Celarier, E.; Brinksma, E.; Gleason, J.; Veeffkind, J.; Cede, A.; Herman, J.; Ionov, D.; Goutail, F.; Pommereau, J.-F.; Lambert, J.-C.; van Roozendaal, M.; Pinardi, G.; Wittrock, F.; Schoenhardt, A.; Richter, A.; Imbrahim, O.; Wagner, T.; Bojkov, B.; Mount, G.; Spinei, E.; Chen, C.; Pongetti, T.; Sander, S. ; Bucsel, E.; Wenig, M.; Swart, D.; Volten, H.; Kroon, M.; Levelt, P. Validation of Ozone Monitoring Instrument nitrogen dioxide columns, *J. Geophys. Res.* 2008, 113, doi:10.1029/2007JD008908.

13. Yang, Z., P. O. Wennberg, R. P. Cageao, T. J. Pongetti, G. C. Toon, and S. P. Sander, Ground-based photon path measurements from solar absorption spectra of the O₂ A-band, *J. Quant. Spec. Rad. Trans.*, 90, 309-321, 2004.