

Curriculum Vitae

EDUCATION

- 2011 PhD, **California Institute of Technology**, Division of Geological and Planetary Sciences.
 - Thesis: “*I: Retrieval of atmospheric carbon dioxide from high-resolution spectra. II: Interannual variability of the stratospheric quasi-biennial oscillation.*” Advisor: Prof. Yuk L. Yung.
- 2008 Master of Science, **California Institute of Technology**, Division of Geological and Planetary Sciences.
- 2006 Master of Science, **Iowa State University**, Atmospheric Sciences.
 - Thesis: “*CFD simulation study of the flow field in a tornado-like vortex.*” Advisor: Prof. William Gallus.
- 2003 Bachelor of Science, **Nanjing University, China**, Atmospheric Sciences.

SKILLS

- Programming **Linux environment, FORTRAN, Matlab, IDL.**
- Modeling **Point-source identification** with WRF-STILT, **surface flux estimation** with GEOS-Chem, **meteorological simulations** with Large Eddies Simulator (LES) models.
- Big-data **Data assimilation, Bayesian optimal estimation, inverse modeling**, principal component analysis, discriminant analysis.

APPOINTMENTS

- 2015–Present Assistant Researcher, Joint Institute for Regional Earth System Science & Engineering, **University of California, Los Angeles**, and the **Jet Propulsion Laboratory, California Institute of Technology**
 - Constrained the gross primary productivity** in global ecosystem models using satellite observations of carbonyl sulfide (OCS).
 - Detected and **quantified point sources of methane/ammonia** in Southern California
 - Benchmarked ozone radiative forcing in climate models and quantified the impacts of hydrological variables on ozone radiative forcing
- 2013–2015 Assistant Scientist, **California Institute of Technology** and the **Jet Propulsion Laboratory, California Institute of Technology**
 - Quantified missing tropical OCS ocean flux** using Harvard’s GEOS-Chem model and optimal estimation methods.
 - Applied the WRF-STILT model to Japan’s GoSAT satellite CO₂ measurements to **identify the footprint of carbon flux** over the Amazon basin.
- 2011–2013 Postdoctoral Scholar, **the Jet Propulsion Laboratory, California Institute of Technology**
 - Developed a retrieval algorithm** and retrieved the atmospheric OCS abundance using NASA’s Tropospheric Emission Spectrometer (TES) satellite measurements
 - Validated total column CO₂ from ground-based Total Carbon Column Observing Network (TCCON) near-infrared (NIR) observations with aircraft data
 - Retrieved the tropospheric CO₂ abundance using combined TCCON and TES measurements

OTHER RELEVANT EXPERIENCES

- 2006–2011 Research Assistant, **California Institute of Technology**
 - Developed infrared-channel selection algorithm** for tropospheric CO₂ retrieval
 - Developed CO₂ vertical profile retrieval algorithm** using synthetic Orbiting Carbon Observatory (OCO) near-IR spectra
 - Studied the solar-cycle influence on stratospheric quasi-biannual oscillation
 - Studied the plumes at the South Pole of Enceladus
- 2003–2006 Research Assistant, **Iowa State University**
 - Simulated tornado-induced wind loads** on built structures
- 2008–2010 Teaching Assistant, **California Institute of Technology**
 - Taught Introduction to Planetary Science (1 quarter)
 - Taught Atmospheric Radiation** (2 quarters)
- 2004 Teaching Assistant, **Iowa State University**
 - Taught Synoptic Meteorology** (1 semester)

SELECTED PROPOSALS

- 2016–2019 **NASA ROSES 2015 Carbon Monitoring System (CMS) #15-CMS15-0062.** Prototype Methane Monitoring System for California.
PI: Riley Duren
Co-I: Christian Frankenberg, David R. Thompson, Andrew K. Thorpe, **Le Kuai**, Francesca Hopkins, Geogio Matheou; Collaborators: Joe Roberts, Daniel Jacob, Bart Croes, Laki Tispoulos, Abhinav Guha, Trina Martynowicz, Kate Larsen, Ian Lloyd
- 2016 **JPL Internal Opportunity #15-RRNES15-0028.** Rapid Response to Aliso Canyon Gas Leak.
PI: Riley Duren
Co-I: **Le Kuai**, Stanley P. Sander, Clare K. Wong, Thomas J. Pongetti, David R. Thompson, Andrew K. Thorpe, Glynn Hulley, John R. Worden, Nick Vance
- 2015 **JPL Internal Opportunity #R.15.021.092.** Methane concentration retrievals from JPL HYTES instrument over dairy and fossil fuel producers.
PI: John R. Worden
Co-I: **Le Kuai**

PENDING PROPOSALS

- 2017 **NASA ROSES Earth Science Applications: Health and Air Quality #NNH17ZDA001N-HAQ.** Measurement and modeling of ground-level and column ammonia for improved health impact assessment in Southern California.
PI: W. Porter
Co-I: F. Hopkins, **L. Kuai**, Y.-H. Lin.

ACTIVITIES

- 2017 **Co-Convener**, workshop at Keck Institute for Space Studies, California Institute of Technology, *Next-Generation Approach for Detecting Climate–Carbon Feedbacks: Space-Based Integration of Carbonyl Sulfide (OCS), CO₂, and Solar Induced Fluorescence (SIF)*, Sep 18–22, Pasadena, CA.
- 2010: **Student**, NCAR Summer Workshop on Mathematics of Climate Change
2004 **Attendee**, The 22nd conference on Severe Local Storms at Hyannis, MA
Sep 2004–May 2005 **Contestant**, National Collegiate Weather Forecasting Contest
Jun 2004 **Student volunteer**, Tornado tracer at west Iowa

MENTORED STUDENTS

- 2016–Present James Stinecipher (PhD student, UC, Merced)
 - Constrained the gross primary productivity in global ecosystem models using satellite observations of carbonyl sulfide (OCS).
- 2016 Kyle Weng (then a visiting high school student; now an undergraduate at Caltech)
 - Studied the uptake of OCS over Alaskan and North American continents.
- 2015 Zhao-Cheng Zeng (then a visiting graduate student; now postdoc at Caltech)
 - Studied terrestrial OCS/CO₂ relative uptake over North American continents.
- 2013–2014 Jiabin Liu (then an undergraduate at Caltech; now a PhD student at UC Berkeley)
 - Retrieved Atmospheric Composition for Ecosystem Studies.
- 2010 W.-Y. Marie Lau (then a visiting undergraduate student; now a PhD student at UC Santa Cruz)
 - Simulated changes in spectrally resolved outgoing longwave radiation over the tropical ocean resulted from climate change between 1970 and 2008.

HONORS

- 2009 **Winner** (poster), UCLA Earth and Planetary Inter-collegiate Student Research Symposium
2005 **Winner** (Scientific Content), The Annual Graduate Meteorology Club Poster Contest
2003 **Outstanding Graduate** of Nanjing University, China
2000–2002 **People’s Scholarship for Academic Excellence**, Nanjing University, China

PROFESSIONAL MEMBERSHIPS

- 2012–present European Geosciences Union, regular member
2012–present American Geophysical Union, regular member
2004–2011 American Geophysical Union, student member
2004–2005 Iowa State University Graduate Meteorology Club, member

SERVICES AS AN ANONYMOUS PEER REVIEWER FOR SCIENTIFIC JOURNALS

Atmospheric and Chemical Physics, Remote Sensing, Atmospheric Environment, Journey of Optics, Remote Sensing of Environment, Entropy

INVITED SEMINARS

2. **Kuai, L.**, et al., (2017): Remote Sensing of Carbonyl Sulfide and Methane for Understanding of Carbon Cycle, Climate Change, and Sustainability, McGill University (Invited talk)
1. **Kuai, L.**, et al., (2017): Remote Sensing of Carbonyl Sulfide and Methane for Understanding of Carbon Cycle, Climate Change, and Sustainability, University of California, Merced (Invited talk)

PEER-REVIEWED PUBLICATIONS**2018**

18. Zumkehr, A., T. W. Hilton, M. E. Whelan, S. Smith, **L. Kuai**, J. R. Worden, J. E. Campbell (2018): Global gridded anthropogenic emissions inventory of carbonyl sulfide, *Atmospheric Environment*, 183, 11–19, doi:10.1016/j.atmosenv.2018.03.063.
17. Whelan, M. E., S. T. Lennartz, T. E. Gimeno, R. Wehr, G. Wohlfahrt, Y. Wang, L. M. J. Kooijmans, T. W. Hilton, S. Belviso, P. Peylin, R. Commane, W. Sun, H. Chen, L. Kuai, I. Mammarella, K. Maseyk, M. Berkelhammer, K.-F. Li, D. Yakir, A. Zumkehr, Y. Katayama, J. Ogée, F. M. Spielmann, F. Kitz, B. Rastogi, J. Kesselmeier, J. Marshall, K.-M. Erkkilä, L. Wingate, L. K. Meredith, W. He, R. Bunk, T. Launois, T. Vesala, J. A. Schmidt, C. G. Fichot, U. Seibt, S. Saleska, E. S. Saltzman, S. A. Montzka, J. A. Berry, and J. E. Campbell (2018), Reviews and Syntheses: Carbonyl Sulfide as a Multi-scale Tracer for Carbon and Water Cycles, *Biogeosci.*, 15, 3625–3657, doi:10.5194/bg-15-3625-2018.
16. Veraverbeke, S., P. Dennison, I. Gitas, G. Hulley, O. Kalashnikova, T. Katagis, **L. Kuai**, R. Meng, D. Roberts, N. Stavros (2018), Hyperspectral remote sensing of fire: a review, *Remote Sensing of Environment*, 216, 105–121, doi:10.1016/j.rse.2018.06.020.

2017

15. **Kuai, L.**, K. W. Bowman, H. M. Worden, R. L. Herman, S. S. Kulawik (2017): Hydrological controls on the tropospheric ozone greenhouse gas effect, *Elem. Sci. Anth.*, 5, 10, doi:10.1525/elementa.208.
14. S. S. Kulawik, C. O'Dell, V. H. Payne, **L. Kuai**, H. M. Worden, C. Sweeney, S. C. Biraud, E. Dlugokencky, L. Iraci, E. Yates, T. Tanaka (2017): Lower-tropospheric CO₂ from near infrared ACOS-GOSAT observations, *Atmos. Chem. Phys.* 17, 5407–5438, doi:10.5194/acp-17-5407-2017.
13. J. E. Campbell, J. Kesselmeier, D. Yakir, J. A. Berry, P. Peylin, S. Belviso, T. Vesala, K. Maseyk, U. Seibt, H. Chen, M. E. Whelan, T. W. Hilton, S. A. Montzka, M. B. Berkelhammer, S. T. Lennartz, **L. Kuai**, G. Wohlfahrt, Y. Wang, N. J. Blake, D. R. Blake, J. Stinecipher, I. Baker, and S. Sitch, (2017): Assessing a New Clue to How Much Carbon Plants Take Up, *Eos*, 98, 10, Oct.

2016

12. **Kuai, L.**, J. R. Worden, K.-F. Li, G. C. Hulley, F. M. Hopkins, C. E. Miller, S. J. Hook, R. M. Duren, and A. D. Aubrey (2016): Characterization of anthropogenic methane plumes with the Hyperspectral Thermal Emission Spectrometer (HyTES): a retrieval method and error analysis, *Atmos. Meas. Tech.*, 9, 3165–3173, doi:10.5194/amt-9-3165-2016.
11. Hulley, G. C., R. M. Duren, F. M. Hopkins, S. J. Hook, N. Vance, P. Guillevic, W. R. Johnson, B. T. Eng, J. M. Mihaly, V. M. Jovanovic, S. L. Chazanoff, Z. K. Staniszewski, **L. Kuai**, J. R. Worden, C. Frankenberg, G. Rivera, A. D. Aubrey, C. E. Miller, N. K. Malakar, J. M. Sánchez Tomás, and K. T. Holmes (2016): High spatial resolution imaging of methane and other trace gases with the airborne Hyperspectral Thermal Emission Spectrometer (HyTES), *Atmos. Meas. Tech.*, 9, 2393–2408, doi:10.5194/amt-9-2393-2016.

2007–2015

10. **Kuai, L.**, J. R. Worden, J. E. Campbell, S. S. Kulawik, K.-F. Li, M. Lee, R. J. Weidner, S. A. Montzka, F. Moore, J. A. Berry, I. Baker, A. S. Denning, H. Bian, K. W. Bowman, J. Liu, Y. L. Yung (2015): Estimate of Carbonyl Sulfide Tropical Oceanic Surface Fluxes Using Aura Tropospheric Emission Spectrometer Observations, *J. Geophys. Res. Atmos.*, 120, 11012–11023, doi:10.1002/2015JD023493.
9. **Kuai, L.**, J. Worden, S. S. Kulawik, S. A. Montzka, and J. Liu (2014): Characterization of Aura TES carbonyl sulfide retrievals over ocean, *Atmos. Meas. Tech.*, 7, 163–172, doi:10.5194/amt-7-163-2014.
8. **Kuai, L.**, J. Worden, S. Kulawik, K. Bowman, S. Biraud, V. Natraj, C. Frankenberg, D. Wunch, B. Connor, R. Shia, C. E. Miller, and Y. L. Yung (2013): Profiling Tropospheric CO₂ using the Aura TES and TCCON instruments, *Atmos. Meas. Tech.*, 6, 63–79, doi:10.5194/amt-6-63-2013.
7. Li, K.-F., B. Tian, K.-K. Tung, **L. Kuai**, J. R. Worden, and Y. L. Yung (2013), A link between tropical intraseasonal variability and polar stratospheric ozone, *Geophys. Res. Lett.*, 118, 4280–4289, doi:10.1002/jgrd.50391.

6. **Kuai, L.**, B. Connor, D. Wunch, R. Shia, C. E. Miller, and Y. L. Yung (2012): Vertically constrained CO₂ retrievals from TCCON measurements, *J. Quant. Spectro. Rad. Trans.*, 113, 1753–1761, doi:10.1016/j.jqsrt.2012.04.024
5. **Kuai, L.**, V. Natraj, R. Shia, C. Miller, and Y. L. Yung, 2010: Channel Selection Using Information Content Analysis: A Case Study of CO₂ Retrieval From Near Infrared Measurements, *J. Quant. Spectro. Rad. Trans.*, 111, 1296–1304, doi: 10.1016/j.jqsrt.2010.02.011.
4. **Kuai, L.**, R. L. Shia, X. Jiang, K. K. Tung, and Y. L. Yung, 2009: The Modulation of the Period of the Quasi-Biennial Oscillation by the Solar Cycle, *J. Atmos. Sci.*, 66, 2418–2428, doi:10.1175/2009JAS2958.1.
3. **Kuai, L.**, R. L. Shia, X. Jiang, K. K. Tung, and Y. L. Yung, 2008: Non-stationary Synchronization of Equatorial QBO with SAO in Observation and Model, *J. Atmos. Sci.*, 66, 1654–1664, doi:10.1175/2008JAS2857.1.
2. **Kuai, L.**, F. L. Haan, W. A. Gallus, and P. P. Sarker, 2008: CFD simulations of the flow field of a laboratory-simulated tornado for parameter sensitivity studies and comparison with field measurements, *Wind and Structures*, 11, 75–96.
1. Tian, B., Y. L. Yung, D. E. Waliser, T. Tyranowski, **L. Kuai**, E. J. Fetzer, and F. W. Irion, 2007: Intraseasonal variations of the tropical total ozone and their connection to the MJO, *Geophys. Res. Lett.* 34, L08704, 10.1029/2007GL029471.

JPL INTERNAL REPORTS

6. Herman, R., **L. Kuai** et al. (2017), “TES R14.1 product validation report”.
5. Hulley, G., N. Vance, **L. Kuai**, S. Hook (2016), “Hyperspectral Thermal Emission Spectrometer (HyTES) L3 Data Product User Guide,” HyTES data User Guide.
4. Worden, H., K. Bowman, S. S. Kulawik, S. Doniki, **L. Kuai** (2016), “TES instantaneous radiative kernel (IRK) and ozone band flux products,” TES Algorithm & Software Design File.
3. **Kuai, L.**, S. S. Kulawik (2016), “Validation of PGE carbonyl sulfide (OCS) product with HIPPO campaign observations and TES prototype OCS product,” TES Algorithm & Software Design File.
2. **Kuai, L.**, J. R. Worden (2015), “Methane concentration retrievals from JPL HYTES instrument over dairy and fossil fuel producers,” Annual Report, JPL Task #R.15.021.092.
1. **Kuai, L.**, S. S. Kulawik (2014), “Specifications for retrieving OCS”, TES Algorithm & Software Design File.

CONFERENCE PRESENTATIONS

31. **Kuai, L.**, K. W. Bowman, H. Worden, K. Miyazaki, A. Conley, J.-F. Lamarque, F. Paulot, D. Paynter, L. Oman, S. Strode, E. Rozanov, A. Stenke, L. Revell, D. Plummer, M. Deushi, K. Shibata, P. Jöckel, M. Kunze, S. Kulawik (2018): Benchmarking chemistry-climate models’ top-of-atmosphere (TOA) flux in 9.6- μm ozone band using instantaneous radiative kernels (IRK), AOGS, Hawaii (oral)
30. **Kuai, L.**, C. Miller, N. Parazoo, I. Baker, M. Shi, A. Bloom, K. Bowman, M. Lee, Z. Zeng, J. Berry, R. Commane, Y. L. Yung (2018): A New Method to reduce the uncertainty in the Alaskan Arctic Gross Primary Productivity (GPP), AOGS, Hawaii (oral)
29. **Kuai, L.**, K. W. Bowman, H. M. Worden, K. Li, R. L. Herman, S. S. Kulawik (2016): Understand the hydrological controls on the tropospheric ozone greenhouse gas effect using AURA TES instantaneous radiative kernel, NASA Sounder Science Team meeting, Greenbelt (oral).
28. **Kuai, L.**, K. W. Bowman, H. M. Worden, K. Li, R. L. Herman, S. S. Kulawik (2016): Hydrological controls on the tropospheric ozone greenhouse gas effect using AURA TES observations, AURA science team meeting, 2016, Rotterdam, the Netherland (oral).
27. **Kuai, L.**, J. Worden, E. Campbell, S. Kulawik, M. Lee, R. Weidner, K. Li, S. Montzka, F. Moore, J. Berry, I. Baker, S. Dennin, H. Bian, K. Bowman, J. Liu, Y. Yung (2016): Constraints on carbonyl sulfide tropical ocean flux from satellite observations: ARUA TES, The first OCS workshop, 2016, Finland (oral).
26. **Kuai, L.**, J. Worden, S. Kulawik, K. Bowman, S. Biraud, C. Frankenberg, D. Wunch, B. Connor, R. Shia, C. E. Miller, and Y. L. Yung (2015), Profiling Tropospheric CO₂ using Aura TES and TCCON instruments, AIRS science team meeting (oral).
25. **Kuai, L.**, H. Worden, K. Bowman, P. Coheur, S. Doniki, (2015): Updates of TES Instantaneous Radiative Kernel (IRK) products in the 9.6-micron zone band for the CCMI, CCMI workshop, 2015, Italy (poster).
24. **Kuai, L.**, J. Worden, E. Campbell, S. Kulawik, M. Lee, R. Weidner, K. Li, S. Montzka, F. Moore, J. Berry, I. Baker, S. Dennin, H. Bian, K. Bowman, Y. Yung (2014): Free tropospheric observations of Carbonyl Sulfide from Aura Tropospheric Emission Spectrometer over ocean, Geophysical Research Abstracts, Vol. 16, EGU2014-4516 (oral).
23. **Kuai, L.**, J. Worden, E. Campbell, S. Kulawik, M. Lee, R. Weidner, K. Li, S. Montzka, F. Moore, J. Berry, I. Baker, S. Dennin, H. Bian, K. Bowman, Y. Yung (2014): A Large Missing Source for Carbonyl Sulfide from the Tropical Ocean? The EOS Aura Science Team Meeting.
22. **Kuai, L.**, J. Worden, Elliott Campbell, S. S. Kulawik, S. A. Montzka, and Jiabin Liu (2013), Constrain Carbonyl Sulfide Ocean flux using free tropospheric observations from Aura Tropospheric Emissions Spectrometer, 2013 Fall Meeting, AGU, San Francisco, Calif., 9-13 Dec (poster)
21. **Kuai, L.**, J. Worden, S. S. Kulawik, and S. A. Montzka (2013), TES carbonyl sulfide (OCS) retrieval algorithm and preliminary results, TES science meeting 2013 (oral)

20. **Kuai, L.**, J. Worden, S. S. Kulawik, and S. A. Montzka (2013), TES carbonyl sulfide (OCS) retrieval algorithm and preliminary results, 2013 NASA Terrestrial Ecology Science Team Meeting (poster)
19. **Kuai, L.**, J. Worden, S. Kulawik, K. Bowman, S. Biraud, C. Frankenberg, D. Wunch, B. Connor, R. Shia, C. E. Miller, and Y. L. Yung (2012), Estimates of boundary layer CO₂ by combining TCCON and TES data, *European Geosci. Union*, Vol. 14, EGU2012-879 (oral)
18. **Kuai, L.**, J. Worden, S. Kulawik, K. Bowman, S. Biraud, C. Frankenberg, D. Wunch, B. Connor, R. Shia, C. E. Miller, and Y. L. Yung (2011), Comparison of free tropospheric CO₂ from TCCON profile retrievals to those from TES and AIRS, A33C-0216, presented at 2011 Fall Meeting, AGU, San Francisco, Calif., 5-9 Dec (poster).
17. Miller C., **L. Kuai**, B. Connor, D. Wunch, R-L. Shia, G. Toon, P. Wennberg, and Y. Yung, 2011, Retrieval of CO₂ vertical profile information from TCCON, *European Geosci. Union*, Vol. 13, EGU2011-9572 (poster).
16. **Kuai, L.**, Xun Jiang, Mao-chang Liang, Run-Lie Shia and Yuk Yung, 2010, Oceanic Sources of CO₂ in the Southern Hemisphere, Pan Ocean Remote Sensing conference (PORSEC) Taiwan (oral).
15. **Kuai, L.**, B. Connor, D. Wunch, R. Shia, C. E. Miller, G. C. Toon, P. O. Wennberg, and Y. L. Yung, 2011: Vertically constrained CO₂ retrievals from TCCON and Channel Selection. OCO₂/ACOS Algorithm meeting (oral).
14. **Kuai, L.**, B. Connor, D. Wunch, R. Shia, C. E. Miller, G. C. Toon, P. O. Wennberg, and Y. L. Yung, 2010: Vertically constrained CO₂ retrievals from TCCON measurements. *EOS Transactions American Geophysical Union*, A51C-0121 (poster).
13. **Kuai, L.**, Vijay Natraj, Run-Lie Shia, Susan Kulawik, Kevin Bowman, Charles Miller, Bill Irion, Yuk Yung, 2009, Channel Selection for CO₂ Retrieval Using Near Infrared Measurements. Gordon Research Conference (GRC), Radiation & Climate (poster).
12. **Kuai, L.**, V. Natraj, R. Shia, C. Miller, and Y. L. Yung, 2009: Channel Selection for CO₂ Retrieval Using Near Infrared Measurements. *EOS Transactions American Geophysical Union*, Vol. 90(52), A51A-0083 (poster).
11. **Kuai, L.**, V. Natraj, R. Shia, S. Kulawik, C. Miller, B. Irion, and Y. L. Yung, 2009: CO₂ Vertical Profile Constraints from OCO and Thermal IR Measurements. *European Geophysical Union*, Vol. 11, Apr 19-24, 2009 (poster).
10. **Kuai, L.**, V. Natraj, R. Shia, S. Kulawik, K. Bowman, C. Miller, B. Irion, and Y. L. Yung, 2009: Simultaneous CO₂ Retrieval Using Near Infrared and Thermal Infrared Measurements, *Panchromatic Retrieval Workshop* (oral).
9. **Kuai, L.**, V. Natraj, R. Shia, S. Kulawik, C. Miller, B. Irion, and Y. L. Yung, 2008: CO₂ Vertical Profile Constraints from OCO and Thermal IR Measurements. *EOS Transactions American Geophysical Union*, Vol. 89(53), A41D-0134, Dec 15-19, 2008 (poster).
8. Li, K., A. Chung, **L. Kuai**, X. Zhang, J. S. Margolis, C. E. Miller, and Y. L. Yung, 2008: Spaceborne Measurements of the Column Averaged Methane Dry Air Mole Fraction. *EOS Transactions American Geophysical Union*, Vol. 89(53), GC51A-0681, Dec 15-19, 2008 (poster).
7. **Kuai, L.**, R. Shia, X. Jiang, K. Tung, and Y. L. Yung: Influence of the solar cycle on the Quasi-Biennial Oscillation period. *EOS Transactions American Geophysical Union*, Vol. 88(52), GC31B-0341, Dec. 10-14, 2007 (poster).
6. **Kuai, L.**, R. Shia, X. Jiang, K. Tung, and Y. L. Yung: Study of the nonlinear interaction between QBO and solar cycle in stratospheric ozone using THIN AIR model. *EOS Transactions American Geophysical Union*, Vol. 87, A21F-0890, Dec. 11-15, 2006 (poster).
5. Yung, Y. L., B. Tian, D. Waliser, T. Tyranowski, and **L. Kuai**, Intraseasonal variations of the tropical total O₃ and its connection to the MJO. *EOS Transactions American Geophysical Union*, Vol. 87, A24B-06, Dec. 11-15, 2006 (oral).
4. Feldman, D., **L. Kuai**, V. Natraj, and Y. L. Yung, Introduction Tools for Radiative Transfer Models, *EOS Transactions American Geophysical Union*, Vol. 87, ED43B-0939, Dec. 11-15, 2006 (poster).
3. Gallus, W. A., F. L. Haan, P. P. Sarkar, **L. Kuai**, and J. Wuman: Comparison of numerical model and laboratory simulator tornado wind fields with radar observations of the Spencer, South Dakota tornado, *Symp. On the Challenges of Severe Convective Storms*, 86th AMS Annual Meeting, Atlanta, GA, American Meteorological Society, 2006.
2. Sarkar, P. P., F. L. Haan, Jr., W. A. Gallus, **L. Kuai**, R. Kardell, J. Wurman: A Laboratory Tornado Simulator: Comparison of Laboratory, Numerical and Full-Scale Measurements, *the 10th Americas Conference*, Baton Rouge, May 31, 2005.
1. Gallus, W. A., P. P. Sarkar, F. L. Haan, **L. Kuai**, R. Kardell and J. Wuman: A Translating Tornado Simulator For Engineering Tests: Comparison of Radar, Numerical Model, and Simulator Winds, *the 22nd conference on Severe Local Storms*, Hyannis, MA, Oct. 2004.