

Curriculum Vitae

Jielun Sun



Contact Information

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Educational Information

Ph.D.	atmospheric science	Yale University	1991
M. Phil.	atmospheric science	Yale University	1986
B. S.	meteorology	Peking Univ. (Beijing Univ.)	1983

Work History

Jan. 2010-	Graduate faculty,	Univ. of Colorado at Boulder.
Jul. 2005 -	Scientist III	NCAR
Jun. 2001 - Jun. 2005	Scientist II	NCAR
Oct. 1998 - May 2001	Project Scientist II	NCAR
Aug. - Oct. 1997	Visiting Scientist	Risø National Lab., Denmark
Jun. 1995 - Jul. 2003	Research Associate,	Univ. of Colorado
Sept. 1995 - Sept. 1998	Long-Term Visitor,	NCAR
Oct. - Dec. 1994	Visiting Scientist	NCAR
Oct. 1994 - May 1995	Research Assistant Prof.	Saint Louis Univ.
Oct. 1994 - Oct. 1998	Research Assistant Prof.	Oregon State Univ.
Oct. 1991 - Sept. 1994	Postdoctoral Research Associate	Oregon State Univ.

Editorships

Journal of Meteorological Research, 2017-
Associate Editor, Journal of Applied Meteorology and Climatology, 2004-2010
Editorial Board of Boundary-Layer Meteorology, 2004-2014

Awards and Honors

UCAR Outstanding Publication Nominee, 2014
UCAR Outstanding Accomplishment Award for Mentoring, 2009

External Services

- Planning Committee, Workshop on The Future of Boundary Layer Observations, the National Academies of Sciences, Engineering, and Medicine, 2017- 2018
- International Advisory Committee, Institute of Urban Meteorology, Beijing, China, 2014-
- The Observing Facilities Assessment Panel (OFAP), 2015-2017
- DOE Panel Review, Apr. 2014

- Invited on Biosphere 2 Advisory Board, Univ. of Arizona, 30 Nov., 2012
- Advisory Group, Fundamental Instrument Unit, National Ecological Observatory Network (NEON), 2009-2017
- American Meteorological Society Boundary Layers and Turbulence Committee, 1998-2000

Contribution to Advanced Education

- Ph.D. Thesis Committee, Eric Russel, Dept. of Civil and Environmental Engineering, Washington State Univ., 2014-2016
- Ph.D. Thesis Committee, Sean Burns, Dept. of Geography, Univ. of Colorado, 2013-
- Ph.D. Research Advisor, Thesis Committee, Mireia Udina, Univ. of Barcelona, Spain, 2012-2015
- Ph.D. Research Advisor, Guoyin Wang, Lanzhou Univ., China, 2010-2012
- Ph.D. Research Advisor, Thesis Committee, Sherri Heck, Univ. of Colorado, 2010-2012
- A UCAR SOARS Science Mentor, Robert Cancel III, Jackson State Univ., 2004
- Master Research Advisor, Gerrit Oosterhuis, Dept. Meteorology and Air Quality, Wageningen Univ., the Netherlands, 2000

Contribution to K-12 Education

Science Advisory Board, Cool Girls Science and Art Club, 2010-2011

NCAR Committees and Services

- The NCAR Library Advisory Board, 2015-2017
- Co-Chair of Goal 8 for the UCAR Strategic Plan, 2014
- NCAR/EOL CentNet Committee, 2012-
- The NCAR Women Organizing Research and Leading Science (WORLS), 2010-2014
- NCAR Diversity Committee Chair, 2010-2011
- NCAR Asian Circle, 2009-2014
- NCAR Diversity Committee, 2009-2011
- Seminar Coordinator, MMM Division, NCAR, 2009-2012
- UCAR Distinguished Accomplishment Awards Committee, 2006-2008
- A selected member for the NCAR Leadership Academy, 2006
- Chair/Co-Chair, English as a Second Language (ESL), UCAR, 2005-2017
- Executive Committee of NCAR Biogeoscience Initiative, 2003-2009
- Co-Chair, Junior Faculty Forum on Future Science Directions: Interactions between Land Ecosystem and the Atmospheric Hydrological Cycle, NCAR Advanced Study Program and NCAR's Early Career Scientists Assembly (ECSA), 18-20 June 2003

Workshop Committees, Conference Chair

- Organizing Committee Chair, Scientific Committee, the NCAR/GTP Workshop on Wave-Turbulence Interactions in Stable Boundary Layer (WINBAL), 2012.
- Organizing Committee Chair for the NCAR/GTP Workshop on Roughness Sublayers, 2006.
- Co-Chair, CASES-99 Workshop, 2001.
- Co-Chair, the Southern Great Plains Experiment Workshop, 2001
- Program Committee Co-Chair, the 14th AMS Boundary Layers and Turbulence Conference, 2000
- Co-Chair, Special Session-Cooperative Atmosphere-Surface Exchange Study, the 2000 AGU Fall Conference

Field Campaigns

Air-Land Experiments:

- SAVANT (Stable Atmospheric Variability ANd Transport), 2018-2021
- FANTASTIC-1 (Forced and Natural Turbulence Allowing Studies of Anisotropic Conditions), 2018-2021
- SCP (Shallow Cold Pool), October-December, 2012
- ACME-04 and ACME-07 (Airborne Carbon in the Mountains Experiment), 2004, 2007
- CME-04 (Carbon in the Mountains Experiment) 2004
- NIWOT-02 (Niwot-Ridge Experiment), 2002, PI for the multidisciplinary experiment
- CASES-99 (Cooperative Atmosphere-Surface Exchange Study), 1999
- SGP-97 (Southern Great Plains), 1997
- Microfronts, March, 1995
- BOREAS (Boreal Ecosystem-Atmosphere Study), 1994 and 1996

Air-Sea Experiments:

- CBLAST-Low (Coupled Boundary Layer Air-Sea Transfer at Low Winds), 2001-2004
- SHOWEX (Shoaling Wave Experiment), 1998-2001

Research Grants

External Grants

- PI: April Hiscox, J. Wang, D. Kristovich, J. Sun (collaborator), 2017-2020: Collaborative Research: SAVANT: Stable Atmospheric Variability ANd Transport, AGS, NSF
- PI: Takle, E. S., D. Rajewski, S. L. Purdy, J. Sun (collaborator), and S. Zilitinkevich, 2017-2020, Collaborative Research: Forced and Natural Turbulence Allowing Studies of Anisotropic Conditions (FANTASTIC-1), AGS, NSF.
- PIs: Russell K. Monson, D. S. Schimel, S. M. Buhr, D. S. Ojima, B. B. Stephens, L. Sternberg, J. Sun, Biocomplexity: Carbonshed Studies of Carbon Sequestration in Complex Terrain. Sept. 2003-Aug. 2008, EAR-BE: Coupled Biogeochemical Cycle, EAR, NSF, \$1,999,830.
- PI: Jielun Sun, Investigating Characteristics of Air-Sea Interactions in the Wave and Surface Layers. Oct. 2004 to Sept. 2005, Marine Meteorology and Atmospheric Effects Funding Opportunity, ONR, \$45,293.
- PI: Jielun Sun, Surface Fluxes Under Weak Wind Conditions. Departmental Research Initiative "Coupled Boundary Layer/Air-Sea Transfer", Jan. 2001-Dec. 2004, ONR, \$150,000.
- PI: Jielun Sun, Surface Fluxes of Wind-Wave Interactions in Weak Wind Conditions. Oct. 2001-Sept. 2003, ONR, \$81,146.
- PI: Jielun Sun, Investigation of Nocturnal Boundary Layers. Jun. 2002-Jun. 2005, ARO \$321,885.
- PI: Jielun Sun, Mesoscale and Microscale Motions in Stable Conditions. Jun.1999-Jun. 2002, ARO, \$245,330.
- PI: Jielun Sun, Spatial Variation of Surface Moisture Fluxes in SGP. Land Surface Hydrology Program, Mar. 1999-Apr. 2002, NASA, \$156,697.
- PI: Jielun Sun, Collaborative Research: Vertical Divergence of Turbulent and Radiative Fluxes, and Influence of Mesoscale Motions on Turbulence Intermittency---Validity of Monin-Obukhov Similarity Theory in Stable Boundary. Aug. 1999-Jul. 2002, PDM, NSF, \$115,288.
- PIs: Jielun Sun and Larry Mahrt, Turbulent and Mesoscale Motions in Stable Conditions. Apr. 1999-Mar 2002, ARO, \$243,790.
- PIs: Jielun Sun, Spatial Variation of the Wave, Stress and Wind Fields in the Shoaling Zone, Jan. 1998-Dec. 2001, ONR, \$232,191.
- PI: Jielun Sun, Spatially-averaged fluxes of CO₂, heat, and moisture. Jul. 1998-Apr. 2000,

NASA BOREAS Guest Investigator Program, \$143,950.

- PIs: Larry Mahrt and Jielun Sun, A New Heat Flux Formulation Based on Effective Surface Temperatures with Extension to the Nocturnal Boundary Layer. 1996-1998, ARO, \$339,970.
- PI: Jielun Sun, Using a New Canopy Model to Study Heat, Moisture, and Ozone Fluxes. U.S. Department of Agriculture Forest Service, Feb. 1996 to Jun. 1996, \$12,800.
- PI: Jielun Sun, The Bulk Aerodynamic Method for Heat Flux Based on Surface Radiation Temperature. Oct. 1995-Sept. 1998, ARO, \$ 232,810.
- PIs: Larry Mahrt, Michael Freilich, and Jielun Sun, Generalized Drag Law Based on RASEX and FLIP data. Nov. 1995-Oct. 1997, ONR, \$227,614.

Internal Grants

- PI: Jielun Sun, 2012: Improving the Communication Skills of NCAR's Diversified Staff, \$19,728.
- PI: Jielun Sun, 2010: Strengthening Our Long-Term Diverse Workforce by Improving Our ESL Staff's Communication Skills. Oct. 2010-Sept. 2011, NCAR Diversity Fund, \$14,910.
- PI: Jielun Sun, 2009: Investigation of Scalar Turbulence Fluxes and Their Parameterization. NCAR Special Grant, \$80,000.
- PIs: Jielun Sun, D. Lenschow, M. LeMone, S. Burns, Effects of Complex Interactions Among Aero-Bio-Geo-Hydro Cycles on the Long-Term Carbon Dioxide Budget. Jan. 2002- Dec. 2002, NCAR Opportunity Fund, \$76,837.

Membership in Professional Societies

American Meteorological Society
American Geophysical Union
Sigma Xi

Citation Index

Web of Science:

ResearchID H-6576-2015. total citation: 2398, average citations per article: 36, Articles with citation data: 66 (incomplete), H-index: 30.

Google Citation:

total citation, 3473, H-index 34, i10-index 55.

Theses

- B.S. Physical processes for maintaining the meridional and zonal circulation in midlatitude atmosphere. Supervisor: Qiushi Chen
- Ph.D. Tropopause fold investigations: secondary circulations, water vapor and ozone analysis. Supervisor: Ronald Smith

Refereed Journal Publications

(72) Sun, J., Z. Cheng, J. Li, J. Dou, X. Cao, J. Zhang, 2017, Influences of urban canopies on turbulent mixing over the urban canopy sublayer. Submitted to *J. Appl. Meteorol. Clim.*

(71) Li, J., J. Sun, M. Zhou, Z. Cheng, Q. Li, X. Cao, and J. Zhang, 2017, Observational

analysis of dramatic developments of a severe air pollution event in the Beijing area. Submitted to *Atmos. Chem. Phys.*

- (70) Liang, X., S. Miao, J. Li, R. Bornstein, X. Zhang, Y. Gao, F. Chen, X. Cao, Z. Cheng, C. Clements, W. Debberdt, D. Ding, J. J. Dou, J. X. Dou, Y. Dou, C. S. B. Grimmond, J. Gonzalez-Cruz, M. Huang, S. Ju, Q. Li, D. Niyogi, J. Quan, J. Sun, J. Z. Sun, M. Yu, J. Zhang, Y. Zhang, Z. Zheng, M. Zhou: 2017, Characterization of energy flux partitioning in urban environments: links with surface seasonal properties. Submitted to *Bull. Amer. Meteorol. Soc.*
- (69) Sun, J. 2017b, Incorporating non-hydrostatic pressure work in thermal energy conservation. Submitted to *J. Atmos. Sci.*
- (68) Sun, J. 2017a, Derivation of surface drag coefficients from atmospheric observations. Submitted to *Quart. J. Roy. Meteorol. Soc.*,
- (67) Sun, J., and J. R. French, 2016, Air-sea interactions in light of new understanding of air-land interactions. *J. Atmos. Sci.*, **73**, 3931-3949, doi: 10.1175/JAS-D-15-0354.1
- (66) Sun, J., D. H. Lenschow, M. A. LeMone, L. Mahrt, 2016, The role of large-coherent-eddy transport in the atmospheric surface layer based on CASES-99 observations. *Boundary-Layer Meteorol.*, **160(1)**, 83-111, doi: 10.1007/s10546-016-0134-0
- (65) Mahrt, L., E. L. Andreas, J. B. Edson, and D. Vickers, J. Sun, E. G. Patton, 2016: Coastal zone surface stress with stable stratification. *J. Phys. Oceanog.*, **46**, 95-105.
- (64) Udina, M., J. Sun, B. Kosović, and M. R. Soler 2016: Exploring vertical turbulence structure in neutrally and stably stratified flows using the Weather Research and Forecasting --Large-Eddy Simulation (WRF-LES) model. *Boundary-Layer Meteorol.*, **161**, 355-374, doi:10.1007/s10546-016-0171-8
- (63) Sun, J., C. J. Nappo, L. Mahrt, D. Belušić, B. Grisogono, D. R. Stauffer, M. Pulido, C. Staquet, Q. Jiang, A. Pouquet, C. Yagüe, B. Galperin, R. B. Smith, J. J. Finnigan, S. D. Mayor, G. Svensson, A. A. Grachev, and W. D. Neff, 2015, Review of wave-turbulence interactions in the stable atmospheric boundary layer. *Rev. Geophysics*, **53(3)**, 956-993, doi:10.1002/2015RG000487.
- (62) Lee, X., Z. Gao, C. Zhang, F. Chen, Y. Hu, W. Jiang, S. Liu, L. Lu, J. Sun, J. Wang, Z. Zeng, Q. Zhang, M. Zhao, M. Zhou, 2015: Meeting Summary: Priorities for boundary-Layer meteorology research in China. *Bull. Amer. Meteorol. Soc.*, doi: 10.1175/BAMS-D-14-00278.1
- (61) Sun, J., L. Mahrt, C. Nappo, and L. H. Lenschow, 2015: Wind and temperature oscillations generated by wave-turbulence interactions in the stably stratified boundary Layer. *J. Atmos. Sci.*, **72(4)**, 1484-1503.
- (60) Mahrt, L., J. Sun, and D. Stauffer, 2015: Dependence of turbulent velocities on wind speed and stratification. *Boundary-Layer Meteorol.*, **155(1)**, 55-71.
- (59) Mahrt, L., S. Oncley, J. Sun, and T. Horst, 2014: Transient cold air drainage down a shallow valley. *J. Atmos. Sci.*, **71**, 2534-2544.

- (58) Nappo, C., J. Sun, L. Mahrt, and D. Belušić, 2014: Determining wave-turbulence interactions in the stable boundary layer. *Bull. Amer. Meteorol. Soc.*, **95**, ES11-ES13, doi 10.1175/BAMS-D-12-00235.1.
- (57) Sun, J., D. H. Lenschow, L. Mahrt, C. Nappo, 2013: The relationships among wind, horizontal pressure gradient, and turbulent momentum transport during CASES-99. *J. Atmos. Sci.*, **70**, 3397-3414, doi: 10.1175/JAS-D-12-0233.1.
- (56) Van de Wiel, B. J. H., A. F. Moene, H. J. J. Jonker, P. Baas, S. Basu, J. M. M. Donda, J. Sun, and A. A. M. Holtslag, 2012: The minimum wind speed for sustainable turbulence in the nocturnal boundary layer. *J. Atmos. Sci.*, **69**, 3116-3127.
- (55) Chougule, A., J. Mann, M. Kelly, J. Sun, D. H. Lenschow, and E. G. Patton, 2012: Vertical cross-spectral phases in neutral atmospheric flow. *J. Turbulence*, **13 (36)**, 1-13.
- (54) Sun, J., L. Mahrt, R. M. Banta, and Y. L. Pichugina, 2012: Turbulence regimes and turbulence intermittency in the stable boundary layer during CASES-99. *J. Atmos. Sci.*, **69**, 338-351.
- (53) Sun, J., 2011: Vertical variations of mixing lengths under neutral and stable conditions during CASES-99. *J. Appl. Meteorol. Clim.*, **50**, 2030-2041.
- (52) Burns, S. P., J. Sun, D. H. Lenschow, S. P. Oncley, B. B. Stephens, C. Yi, D. E. Anderson, J. Hu, and R. K. Mogeopson, 2011: Atmospheric stability effects on wind fields and scalar mixing within and just above a subalpine forest in sloping terrain. *Boundary-Layer Meteorol.*, **138**, 231-262.
- (51) Patton, E. G., T. W. Horst, P. P. Sullivan, D. H. Lenschow, S. P. Oncley, W. O. J. Brown, S. P. Burns, A. B. Guenther, A. Held, T. Karl, S. D. Mayor, L. V. Rizzo, M. Spuler, J. Sun, A. A. Turnipseed, E. J. Allwine, S. L. Edburg, B. K. Lamb, R. Avissar, R. Calhoun, J. Kleissl, W. J. Massman, K. T. Paw U, and J. C. Weil, 2011: The canopy horizontal array turbulence study (CHATS). *Bull. Amer. Meteorol. Soc.*, **92(5)**, 593-611.
- (50) Sun, J., S. P. Oncley, S. Burns, B. B. Stephens, D. H. Lenschow, T. Campos, R. K. Monson, D. S. Schimel, W. J. Sacks, S. F. J. De Wekker, C.-T. Lai, B. Lamb, D. Ojima, P. Z. Ellsworth, L. S. L. Sternberg, S. Zhong, C. Clements, J. P. Moore, D. E. Anderson, A. S. Watts, J. Hu, M. Tschudi, S. Aulenbach, E. Allwine, and T. Coons, 2010: A Multi-scale and multi-disciplinary investigation of ecosystem-atmosphere CO₂ exchange over mountains. *Bull. Amer. Meteorol. Soc.*, **91(2)**, 209-230.
- (49) Oncley, S. P., K. Schwenz, S. P. Burns, J. Sun, and R. K. Monson, 2009: A cable-borne platform for atmospheric measurements along transects (TRAM). *J. Atmos. Oceanic Tech.*, **26**, 462-473.
- (48) Burns, S. P., A. C. Delany, J. Sun, B. B. Stephens, S. P. Oncley, G. D. Maclean, S. R. Semmer, J. Schröter, and J. Ruppert, 2009: An evaluation of calibration techniques for in situ carbon dioxide measurements using a programmable portable trace-gas measuring system. *J. Atmos. Oceanic Tech.*, **26**, 291-316.
- (47) Schaeffer, S. M., D. E. Anderson, S. P. Burns, R. K. Monson, J. Sun, and D. R. Bowling, 2008: Canopy structure and atmospheric flows in relation to the $\delta^{13}\text{C}$ of respired CO₂ in a subalpine coniferous forest. *Agric. Forest. Meteorol.*, **148**, 592-605.

- (46) Lenschow, D., and J. Sun, 2007: The spectral composition of fluxes and variances over land and sea out to the mesoscale. *Boundary-Layer Meteorol.*, **125**, 63-84.
- (45) Edson, J., T. Crawford, J. Crescenti, T. Farrar, N. Frew, G. Gerbi, C. Helmig, T. Hristov, D. Khelif, A. Jessup, H. Jonsson, M. Li, L. Mahrt, W. McGillis, A. Plueddemann, L. Shen, E. Skyllingstad, T. Stanton, P. Sullivan, J. Sun, H. Trowbridge, D. Vickers, S. Wang, Q. Wang, R. Weller, J. Wilkin, D. Yu, and C. Zappa, 2007: The Coupled Boundary Layers and Air-Sea Transfer Experiment in Low Winds (CBLAST-LOW). *Bull. Amer. Meteorol. Soc.*, **88**, 341-356.
- (44) Sun, J., 2007: Tilt corrections over complex terrain and its implication for CO₂ transport. *Boundary-Layer Meteorol.*, **124**, 143-159.
- (43) Banta, R. M., L. Mahrt, D. Vickers, J. Sun, B. B. Balsley, Y. Pichugina, and E. J. Williams, 2007: The very stable boundary layer on nights with weak low-level jets. *J. Atmos. Sci.*, **64**, 3068-3090.
- (42) Sun, J. S. P. Burns, A. C. Delany, S. P. Oncley, A. A. Turnipseed, B. B. Stephens, D. H. Lenschow, M. A. LeMone, R. K. Monson, and D. E. Anderson, 2007: CO₂ transport over complex terrain. *Agric. Forest. Meteorol.*, **145**, 1-21.
- (41) Wang, Y.-C., J. Li, F. Chen, D. H. Lenschow, J. Sun, D. Niyogi, K. Lau, W. Jiang, X. Deng, and D. Wu, 2005: Challenge and opportunities in urban meteorology research and forecast. *Science Foundation in China (Bulletin of National Natural Science Foundation)*, **13(1)**, 23-30.
- (40) Barth, M., J. P. McFadden, J. Sun, C. Wiedinmyer, P. Chuang, D. Collins, R. Griffin, M. Hanningan, T. Karl, S.-W. Kim, S. Lasher-Trapp, S. Levis, M. Litvak, N. Mahowald, K. Moore, S. Nandi, E. Nemitz, A. Nenes, M. Potosnak, T. Raymond, J. Smith, C. Still, and C. Stroud, 2005: Coupling between land ecosystems and the atmospheric hydrologic cycle through biogenic aerosol pathways, *Bull. Amer. Meteorol. Soc.*, **86(12)**, 1738-1742.
- (39) Sun, J., S. P. Burns, D. Vandemark, M. A. Donelan, L. Mahrt, T. L. Crawford, G. H. Crescenti, and J. R. French, 2005: Measurement of directional wave spectra using aircraft laser altimeters. *J. Atmos. Oceanic Tech.*, **22(7)**, 869-885.
- (38) Vandemark, D., B. Chapron, J. Sun, G. H. Crescenti, and H. Graber, 2004: Ocean wave slope observations using Radar backscatter and laser altimeters. *J. Phys. Oceanog.*, **34**, 2825-2842.
- (37) Sun, J., D. H. Lenschow, S. P. Burns, R. M. Banta, R. K. Newsom, R. Coulter, S. Frasier, T. Ince, C. Nappo, B. Balsley, M. Jensen, L. Mahrt, D. Miller, and B. Skelly, 2004: Atmospheric disturbances that generate intermittent turbulence in nocturnal boundary layers. *Boundary-Layer Meteorol.*, **110**, 255-279.
- (36) Burns, S. P., J. Sun, A. C. Delany, S. R. Semmer, S. P. Oncley, and T. W. Horst, 2003: A field intercomparison technique to improve the relative accuracy of longwave radiation measurements and an evaluation of CASES-99 pyrgeometer data quality. *J. Atmos. Oceanic Tech.*, **20**, 348-361.
- (35) Sun, J., S. P. Burns, A. C. Delany, S. P. Oncley, T. W. Horst, and D. H. Lenschow, 2003:

- Heat balance in nocturnal boundary layers during CASES-99. *J. Appl. Meteorol.*, **42**, 1649-1666.
- (34) Sun, J., S. P. Burns, D. H. Lenschow, R. Banta, R. Newsom, R. Coulter, S. Frasier, T. Ince, C. Nappo, J. Cuxart, W. Blumen, X. Lee, and X.-Z. Hu, 2002: Intermittent turbulence associated with a density current passage in the stable boundary layer. *Boundary-Layer Meteorol.*, **105**, 199-219.
- (33) Poulos, G. S., W. Blumen, D. C. Fritts, J. K. Lundquist, J. Sun, S. P. Burns, C. Nappo, R. Banta, R. Newsom, J. Cuxart, E. Terradellas, B. Balsley, and M. Jensen, 2002: CASES-99---A comprehensive investigation of the stable nocturnal boundary layer. *Bull. Amer. Meteorol. Soc.*, **83**, 555-581.
- (32) Mahrt, L., D. Vickers, J. Sun, T. L. Crawford, G. Crescenti, and P. Frederickson, 2001: Surface stress in offshore flow and quasi-frictional decoupling. *J. Geo. Res.*, **106**, 20629-20639.
- (31) Sun, J., D. Vandemark, L. Mahrt, D. Vicker, T. Crawford, and C. Vogel, 2001: Momentum transfer over the coastal zone. *J. Geo. Res.*, **106**, 12437-12448.
- (30) Mahrt, L., D. Vickers, and J. Sun, 2001: Spatial variations of surface moisture flux from aircraft data. *Adv. Water Resour.*, **24**, 1133-1141.
- (29) Blumen, W., R. Banta, S. P. Burns, D. C. Fritts, R. Newsom, G. S. Poulos, and J. Sun, 2001: Turbulence statistics of a Kelvin-Helmholtz billow event observed in the night-time boundary layer during the Cooperative Atmosphere-Surface Exchange Study field program. *Dyn. Atmos. Oceans*, **34**, 189-204.
- (28) Mahrt, L., D. Vickers, R. Nakamura, M. R. Soler, J. Sun, S. Burns, and D. H. Lenschow, 2001: Shallow drainage flows. *Boundary-Layer Meteorol.*, **101**, 243-260.
- (27) Mahrt, L., D. Vickers, J. Sun, and J. H. McCaughey, 2001: Calculation of area-averaged fluxes: Application to BOREAS. *J. Appl. Meteorol.*, **40**, 915-920.
- (26) Vickers, D., L. Mahrt, J. Sun, and T. Crawford, 2001: Structure of offshore flow. *Mon. Wes. Rev.*, **129**, 1251-1258.
- (25) Vandemark, D., P. D. Mourad, S. A. Bailey, T. L. Crawford, C. A. Vogel, J. Sun, and B. Chapron, 2001: Measured changes in ocean surface roughness due to atmospheric boundary layer rolls. *J. Geo. Res.*, **106**, 4639-4654.
- (24) Mahrt, L., D. Vickers, J. Sun, N.O. Jensen, H. Jørgensen, E. Pardyjak, and H. Fernando, 2001: Determination of the surface drag coefficient. *Boundary-Layer Meteorol.*, **99**, 249-276.
- (23) Sun, J. 1999: Diurnal variations of thermal roughness height over a grassland. *Boundary-Layer Meteorol.*, **92**, 407-427.
- (22) Sun, J., W. Massman, and D. Grantz, 1999: Aerodynamic variables in the bulk formulation of turbulent fluxes. *Boundary-Layer Meteorol.*, **91**, 109-125.
- (21) Sun, J., and W. Massman, 1999: Ozone transport during the California Ozone Deposition

- Experiment. *J. Geo. Res.*, **104**, 11939-11948.
- (20) Howell, J. F., and J. Sun, 1999: Surface-layer fluxes in stable conditions. *Boundary-Layer Meteorol.*, **90**, 495-520.
- (19) Mahrt, L., K. Kotwica, J. Sun, J. I. MacPherson, and R. L. Desjardins, 1998: Estimation of area-averaged moisture flux. *Quart. J. Roy. Meteorol. Soc.*, **124**, 2793-2815.
- (18) Mahrt, L., J. Sun, W. Blumen, T. Delany, and S. Oncley, 1998: Nocturnal boundary-layer regimes. *Boundary-Layer Meteorol.*, **88**, 255-278.
- (17) Mahrt, L., D. Vickers, J. Edson, J. Sun, J. Hojstrup, J. Hare, and J. M. Wilczak, 1998: Heat flux in coastal zone. *Boundary-Layer Meteorol.*, **86**, 421-446.
- (16) Sun, J., R. Desjardins, L. Mahrt, and J. I. MacPherson, 1998: Transport of carbon dioxide, water vapor, and ozone by turbulence and local circulations. *J. Geo. Res.*, **103**, 25873-25885.
- (15) Mahrt, L., J. Sun, J. I. MacPherson, N. O. Jensen, and R. L. Desjardins, 1997: Formulation of surface heat flux: Application to BOREAS. *J. Geo. Res.*, **102**, 29641-29649.
- (14) Sun, J., D. H. Lenschow, L. Mahrt, T. L. Crawford, K. J. Davis, S. P. Oncley, J. I. MacPherson, Q. Wang, R. J. Dobosy, and R. L. Desjardins, 1997: Lake-induced atmospheric circulations during BOREAS. *J. Geo. Res.*, **102**, 29155-29166.
- (13) Sun, J., J. F. Howell, S. K. Esbensen, L. Mahrt, C. M. Greb, R. Grossman, and M. A. LeMone, 1996: Scale dependence of air-sea fluxes over the western equatorial pacific. *J. Atmos. Sci.*, **53**, 2997-3012.
- (12) Sun, J., and L. Mahrt, 1995: Relationship of the heat flux to microscale temperature variations: Application to BOREAS. *Boundary-Layer Meteorol.*, **76**, 291-301.
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- (31) Sun, J. 2017, Energy conservation. Invited seminar at Department of Geophysics, Faculty of Science, 3 April, University of Zagreb, Zagreb, Croatia.
- (30) Sun, J. 2017, Energy conservation, *Workshop on the Atmospheric Stable Boundary Layer*, 27-31 March 2017, Delft, the Netherlands.
- (29) Sun, J., 2017, Energy conservation in understanding atmospheric thermodynamic structures and wave-turbulence interactions. *The 10th International Workshop on Nonlinear Waves and Chaos (NWCW17)*, 20-24 March 2017, Lo Jolla, CA.
- (28) Sun, J., D. H. Lenschow, M. A. LeMone, L. Mahrt, 2015, the role of large-coherent-eddy transport in the atmospheric surface layer based on CASES-99 observations. 9 December, 2015, University of Barcelona, Spain.
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