

WILLIAM E. EICHINGER

Professor
Department of Civil and Environmental Engineering
University of Iowa
Iowa City, IA 52242

(319) 358-1053 (Office)
(319) 335-5238 (Fax)
(319) 339-8255 (Home)

william-eichinger@uiowa.edu

1340 Goldenrod,
Iowa City, IA 52246

RESEARCH INTERESTS:

Hydrology and Fluid Mechanics in the Environment:
Surface (Land and Ocean) - Atmosphere interactions
Evaporation, Hydrometeorology
Remote Sensing - with specialty in Optical Remote Sensing
Atmospheric Boundary Layer Physics and Modeling

Atmospheric Pollution Control and Remediation:
Solution of Practical Problems in Urban Pollution Mitigation
Development of Measurement Tools and Techniques for Urban Planners

Optical Technology for Remote Sensing

ACADEMIC BACKGROUND:

Ph.D. University of California, Davis, Hydrologic Science, March, 1995.
Major: Atmospheric Science, and Hydrology
M.S. Air Force Institute of Technology, Nuclear Engineering, March, 1985
Major: Nuclear Physics / Engineering
B.S. United States Military Academy, West Point, June, 1976
Major: Physics Recipient of Leslie Groves Award for Advanced Physics

EMPLOYMENT:

2002-present Professor, IIHR Hydrosience and Engineering. Teaches Remote Sensing of the Environment, Evaporation, Atmospheric Transport, Hydrometeorology, Fluid Mechanics, Thermodynamics, Statics.

1997-present Associate Professor, Iowa Institute for Hydraulic Research. Teaches Remote Sensing of the Environment, Evaporation, Atmospheric Transport, Hydrometeorology, Fluid Mechanics, Thermodynamics, Statics.

1991-1996 Staff Scientist, Los Alamos National Laboratory. Worked as a member of the LIDAR (LIght Detection and Ranging) team in developing optical remote sensing instrumentation and applying them in field experiments for use on various problems in science, industry, the environment, and the military.

1989-1991 (Major) Military Research Associate, Los Alamos National Laboratory. Worked on various scientific projects of interest to the military including shock waves in various media, nuclear weapons effects, radiation effects in electronics, and the remote detection of chemical/biological weapons.

1986-1989 (Major) Assistant Professor, Department of Physics, U.S. Military Academy. Supervisor and senior operator of the West Point accelerator and subcritical assembly.

1985-1986 (Captain) Senior Project Engineer, Camp Casey Korea.

1981-1983(Captain) Commander, Engineer Bridge Company, Fort Belvoir, VA.

1980-1981 (Captain) Executive Officer, Directorate of Combat Developments, Fort Belvoir, VA.

1976-1980 (Lieutenant) Engineer Platoon Leader /Company Executive Officer, 15th Engineer Bn (Cbt), Fort Lewis, WA.

TEACHING EXPERIENCE:

1997-present: Dept of Civil and Environmental Engineering, University of Iowa.
1986-1989: Department of Physics at the U.S. Military Academy, West Point: Basic Physics, PH201/202; Modern Physics, PH365; Course Director, PH365, Modern Physics; Advanced Physics Laboratory, PH486; Advanced

Individual Study in Physics, PH489.

AWARDS:

Patent, Wind Sounding Lidar, Awarded November 2003 (# 6,646,725 B1)
M.L. Huit Faculty Award, University of Iowa's highest award for teaching excellence, 2003
US Dept of Agriculture, Secretary's Award, SALSA research team, 2001.
Professor of the Year, UI College of Engineering, 2000
Edwin B. Green Chair, Professor of Hydraulics, 1997-2002
Copyright - MiliCNT and ELAPS lidar data collection and analysis programs - 1997
Allen Prize - Optical Society of America - 1996
Commendation for Excellence in Technical Communications - Laser Focus World - 1995
New Mexico Software Author of the Year Award - NM Entrepreneurs Assn - 1995
Copyright - Elastic lidar data collection program, EView lidar data analysis program - 1994
Los Alamos National Laboratory Distinguished Performance Award - 1994
R&D 100 - Miniature Lidar System - 1993
Los Alamos National Laboratory Distinguished Performance Award - 1993
Popular Science, "Best of What's New" for Miniature Lidar System, 1992
Los Alamos National Laboratory Distinguished Performance Award - 1991
Leslie Groves Award for Advanced Physics

PROFESSIONAL AFFILIATIONS / ACTIVITIES:

American Geophysical Union, member
Member, Large Scale Field Experimentation Committee.
Optical Society of America, member
Tau Beta Pi, (National Engineering Honor Society) member
Licensed Professional Engineer, State of Virginia; PE #012273.
Reviewer for Water Resources Research, Applied Optics, Jour. Geophysical Research.

BOOKS:

Vladimir Kovalev and William Eichinger, Elastic Lidar: Theory, Practice and Analysis Methods, Wiley and Sons, New York, Spring, 2004

PUBLICATIONS:

Submitted:

59. Prueger, J.H., W. E. Eichinger, L. E. Hipps, J. L. Hatfield, Turbulence Statistics in the Flow Field of a Confined Animal Feeding Operation, Submitted to Atmospheric Environment, 2006.
58. Eichinger, W.E., D. I. Cooper, J. Hatfield, L. Hipps, J. J. Nichols, R. Pfeiffer, and J. H. Prueger, Use of Elastic Lidar to Examine the Dynamics of Plume Dispersion from an Agricultural Facility, Submitted to Atmospheric Environment, 2006.
57. Gail. E. Bingham, Jerry Hatfield, John H. Prueger, Thomas D. Wilkerson, Vladimir V. Zavyalov, Richard L. Pfeiffer, Larry Hipps, Randy Martin, Phil Silva, W. Eichinger, An Integrated Approach to Measuring Emissions from Confined Animal Feeding Operations at the Whole Facility Scale, Submitted to the Journal of Air & Waste Management, 2006.
56. Cooper, D.I, W.E. Eichinger, M.Y. Leclerc, J. Archuleta, and C.Y.J. Kao, Stable Boundary Layer Coherent Microscale Structures Observed by Lidar, Submitted, *Geophysical Research Letters*, 2005.
55. Eichinger, W. and H. Holder, A Minimum Variance Method for Lidar Inversion, *Appl. Optics.*, submitted, 2006.
54. Krieger, J., and W. Eichinger, A New Method for the Measurement of Wind Profiles with a Multiple Beam Lidar. *Appl. Optics.*, submitted, 2006.
53. Eichinger, W., H. Eichinger, D. Cooper, J. Kreiger, and E. Carlson, Lidar Observations of High Altitude Activity Associated with Intermittent Turbulence in a Stable Atmosphere, submitted to *Boundary Layer Meteorology*, 2006.
52. Van't Land, R., W. Eichinger, and D. Cooper, Corrections for Monin-Obukhov Estimates of Evapotranspiration in the Presence of a Surface Emission Step Change, Submitted to *Boundary Layer Meteorology*, 2006
51. W. Eichinger, Cooper, D., L. Hipps, J. Prueger, J. Kao and J. Archuleta, Spatially Resolved Estimates of

Latent Energy in a Riparian Area, submitted, Water Resources Research., 2006.

Published or In Press:

50. Cooper, D.I., W. E. Eichinger, J. Archuleta, L. Hipps, C. M. U. Neale, and J. H. Prueger, 2007, An Advanced Method for Deriving Latent Energy Flux from a Scanning Raman Lidar, *Agronomy Journal*, 99, 272-284.
49. J. H. Prueger, J. L. Hatfield, W. P. Kustas, L. E. Hipps, J. I. MacPherson, C. M. U. Neale, W. E. Eichinger, D. I. Cooper, and T. B. Parkin, Tower and Aircraft Eddy Covariance Measurements of Water Vapor, Energy, and Carbon Dioxide Fluxes during SMACEX *Journal of Hydrometeorology* Volume 6, Issue 6 (December 2005) pp. 954–960.
48. W.E. Eichinger and D.I. Cooper, 2007, The Use of Lidar Remote Sensing for Spatially Resolved Measurements of Evaporation and Other Meteorological Parameters, *Agronomy Journal*, 99, 255-271.
47. Holder, H.L. and W.E. Eichinger, Estimates of the Potential Temperature Profile from Lidar Measurements of Boundary Layer Evolution, accepted by Water Resources Research, 2006.
46. Krajewski, W., M.C. Anderson, W.E. Eichinger, D. Entekhabi, B.K. Hornbuckle, P.R. Houser, G.G. Katul, W. Kustas, J.M. Norman, M.B. Parlange, C. Peters-Lidard, E.F. Wood, 2006, A Remote Sensing Observatory for Hydrologic Sciences: A Genesis for Scaling to Continental Hydrology, In Press, Water Resources Research
45. Cooper, D. I., M. Y. Leclerc, J. Archuleta, R. Coulter, E. W. Eichinger, C. Y. J. Kao and C. J. Nappo. 2006. Mass Exchange in the Stable Boundary Layer by Coherent Structures. In press. Special Issue 'Tribute to Marv Wesely'. *Agricultural and Forest Meteorology*. (INVITED), 136, 114-131 .
44. Eichinger, W.E., H.E. Holder, D.I. Cooper, L.E. Hipps, R. Knight, W. P. Kustas, J. Nichols, and J. H. Prueger, Lidar Measurement of Boundary Layer Evolution to Determine Sensible Heat Fluxes, *Journal of Hydrometeorology*, Volume 6, Issue 6 (December 2005) pp. 840–853
43. Eichinger, W.E., D. I. Cooper, L. E. Hipps, W. P. Kustas, C. M. U. Neale, J. H. Prueger, 2006, Spatial and Temporal Variation in Evapotranspiration Using Raman Lidar, *Advances in Water Resources*, 29, 369-381.
42. Muste M., A. Kruger, W. Eichinger, M. Wilson, T. Xing, 2004, Interactive Remote-controlled Experiment for Instruction in Fluid Mechanics and Hydraulics, in Emerging Trends in Engineering Education, 2004 American Society for Engineering Education Annual Conference & Exposition, June 20-23, 2004, Salt Palace Convention Center, Salt Lake City, Utah.
41. Miriofsky, B.J., A.A. Bradley, W.E. Eichinger, W.F. Krajewski, A. Kruger, B.R. Nelson, J.-D. Creutin, J.-M. Lapetite, G. Lee, I. Zawadzki, F.L. Ogden, An experimental study of small-scale variability of reflectivity, *Journal of Applied Meteorology*, 5(1), 110-128, 2004.
40. David C. Fritts, Carmen Nappo, Dennis M. Riggan, Ben B. Balsley, William E. Eichinger, and Rob K. Newsom, 2004, "Analysis of Ducted Motions in the Stable Nocturnal Boundary Layer During CASES-99", *Journal of the Atmospheric Sciences*, 60, 2450-2472.
39. D. I. Cooper, W. E. Eichinger, J. Archuleta, L. Hipps, J. Kao, M. Y. Leclerc, C. M. Neale and J. Prueger, Spatial source-area analysis of three-dimensional moisture fields from lidar, eddy covariance, and a footprint model, *Ag. For. Met.*, Vol. 114, 213-234, 2003.
38. Kao, C.-Y. J., D. I. Cooper, J. M. Reisner, W. E. Eichinger, M. Ghil, 2000: Probing atmospheric turbulence with high-resolution lidar and models. *J. Geophys Res.*, Vol 107, D97.1-7.10, 21 May 2002,
37. Kovalev, V. A., R. A. Susott, W. E. Eichinger, and W. M. Hao, "Application of a Stable Near-end Solution to Determine the Extinction Coefficient of Smoke Aerosols from Biomass Fires," in Proceedings of the Twenty-First International Laser Radar Conference (Defense R & D Canada-Valcartier, Val-Belair, Quebec, Canada. 2002), pp. 7215-7224
36. Porte-Agel, F., M Parlange, C. Meneveau, and W. Eichinger, A Priori Field Study of the Subgrid Scale Heat Fluxes and Dissipation in the Atmospheric Surface Layer, *Journal of the Atmospheric Sciences*, Vol. 58, No. 18, pp. 2673—2698, 2001.
35. D. I. Cooper and W.E. Eichinger, L. Hipps, J. Kao, J. Reisner, S. Smith, S.M. Schaeffer, and D.G. Williams,

Spatial and temporal properties of water vapor and flux over a riparian canopy. *Agric. And Forest Meteorol.* Special Issue, 105, pp 161-183, 2000

34 Eichinger, W. E., D. I. Cooper, L. C. Chen, L. Hipps, C.-Y. J. Kao and J. Prueger. 2000: Estimation of spatially distributed latent heat flux over complex terrain from a Raman lidar. *Agri. And Forest Meteorol.*, Special Issue, 105, pp 145-159, 2000

33 D.C. Goodrich, A. Chehbouni, B. Goff, B. MacNish, T. Maddock, S. Moran, W.J. Shuttleworth, D.G. Williams, C. Watts, L.H. Hipps, D.I. Cooper, J. Schieldge, Y.H. Kerr, H. Arias, M. Kirkland, R. Carlos, P. Cayrol, W. Kepner, B. Jones, R. Avissar, A. Begue, J.-M. Bonnefond, G. Boulet, B. Branan, J.P. Brunel, L.C. Chen, T. Clarke, M.R. Davis, H. DeBruin, G. Dedieu, E. Elguero, W.E. Eichinger, J. Everitt, J. Garatuza-Payan, V.L. Gempko, H. Gupta, C. Harlow, O. Hartogensis, M. Helfert, C. Holifield, D. Hymer, A. Kahle, T. Keefer, S. Krishnamoorthy, J.-P. Lhomme, J.-P. Lagouarde, D. Lo Seen, D. Luquet, R. Marsett, B. Monteny, W. Ni, Y. Nouvellon, R. Pinker, C. Peters, D. Pool, J. Qi, S. Rambal, J. Rodriguez, F. Santiago, E. Sano, S.M. Schaeffer, M. Schulte, R. Scott, X. Shao, K.A. Snyder, S. Sorooshian, C.L. Unkrich, M. Whitaker, I. Yucel, The Semi-Arid Land-Surface-Atmosphere (SALSA) Program, *Ag. Forest Met.*, 105, pp 3-20, 2000.

32 D.C. Goodrich, R. Scott, J. Qi, B. Goff, C.L. Unkrich, M.S. Moran, D. Williams, S. Schaeffer, K. Snyder, R. MacNish, T. Maddock, D. Pool, A. Chehbouni, D.I. Cooper, W.E. Eichinger, W.J. Shuttleworth, Y. Kerr, R. Marsett, W. Ni, Seasonal estimates of riparian evapotranspiration using remote and in situ measurements, *Ag. Forest Met.*, 105, pp 281-309, 2000.

31 Kao, C.-Y. J., Y. H. Hang, D. I. Cooper, W. S. Smith, W. E. Eichinger, and J. M. Reisner, High Resolution Modeling of Lidar Data: Mechanisms Governing Surface Water Vapor During SALSA. *Agri. and Forest Meteorol.*, Special Issue, 105, pp 185-194, 2000.

30 W. Eichinger, M. Parlange, and G. Katul. 'Lidar Measurements of the Scalar Similarity Function in the Unstably Stratified Turbulent Atmosphere', *Bound. Lay. Met.*, 2000, In Press.

29 Porte-Agel, F., M Parlange, C. Meneveau, W. Eichinger, and M. Pahlow, Subgrid Scale Dissipation in the Atmospheric Surface Layer: Effects of Stability and Filter Dimension, *Journal of Hydrometeorology*, 1, 75-87, 2000.

28 P.L. Fuehrer, C.A. Friehe, and T.S. Hristov, D.I. Cooper, W.E. Eichinger. A statistical-uncertainty-based adaptive filter for lidar signals. *Applied Optics*, Vol 39:850-859, 2000.

27 W.E. Eichinger, D.I. Cooper, W. Cottingame, P.R. Forman, J. Griegos, M.A. Osborn, D. Richter, L.L. Tellier, and R. Thornton, The Development Of Raman Water-Vapor and Elastic Aerosol Lidars For the Central Equatorial Pacific Experiment, *Atm. Oceanic Technology*, Vol 16, #11, part 2, pp 1753-1766, (1999).

26 Hagelberg, C.R., D.I. Cooper, C.L. Winter, and W.E. Eichinger, Scale properties of Microscale Convection in the Marine Surface Layer, *Journal of Geophysics Research-Atmospheres*, Vol 103: D14, pp 16897 -16907, (1998).

25 B. Holmen, W. Eichinger, and R. Flocchini, Application of Elastic Lidar to PM10 Emissions from Agricultural NonPoint Sources, *Env. Sci. And Tech.*, Vol 32, #20, pp 3068-3076, (1998).

24 Albertson, J.D., G.G. Katul, M.B. Parlange, and W.E. Eichinger, "Spectral scaling of static pressure fluctuations in the atmospheric surface layer: The interaction between large and small scales", *Physics of Fluids*, 10, 1725-1732, 1998.

23 J. Wang, W.D. Collins, J.T. Kiel, G.J. Zhang, D.I. Cooper, and W.E. Eichinger. Comparison of Observed Marine Boundary Layer Structure with Simulations from the NCAR Community Climate Model CCM3, *J. Climate*, Vol. 10: 3047-3058, 1997.

22 Elliott, S; Blake, D; Rowland, FS; Lu, R; and W. Eichinger, Ventilation of liquefied petroleum gas components from the Valley of Mexico. *Journal of Geophysical Research-Atmospheres*, V102, ND17:21197-21207, 1997.

21 Cooper, D.I., Eichinger, W.E., Ecke, R.E., Kao, J.C.Y., Initial investigations of microscale cellular convection in an equatorial marine atmospheric boundary layer revealed by lidar, *Geophys. Res. Let.*, V24 N1, pp: 45-48, 1997.

20 Albertson, J.D. G. Kiely, M.B. Parlange, and W.E. Eichinger, The average dissipation rate of turbulent kinetic energy in the neutral and unstable atmospheric surface layer, *Journal of Geophysical Research*, V102, pp 13423- 13432, 1997.

- 19 Kao, C.Y.J., Quintanar, A., Newman, M.J., Eichinger, W. Climate simulations with NCAR CCM2 forced by global sea surface temperature, 1950-89. *J. Of Climate*, V9 N12 pp: 3530-3547, 1996.
- 18 D.I. Cooper, W.E. Eichinger, M.V. Hynes, D.F. Keller, C.F. Lebeda, and D.A. Poling, High Resolution Properties of the Equatorial Pacific Marine Atmospheric Boundary Layer from Lidar and RadioSonde Observations, *J. Atmos. Sci.*, V53, N14, pp: 2054-2075, 1996.
- 17 Kiely, G., J.D. Albertson, M.B. Parlange, and W.E. Eichinger, Convective Scaling of the Average Dissipation Rate of Temperature Variance in the Atmospheric Surface Layer, *Boundary-Layer Meteorology*, V77, N3-4, pp:267-284, 1996.
- 16 J.E. Pinzon, C.E. Puente, M.B. Parlange, and W. Eichinger, A Multifractal Analysis of Lidar Measured Water Vapor, *Boundary Layer Met.*, 76, pp. 323-347, 1996.
- 15 V. Kovalev, J. McElroy, and W. Eichinger,, Lidar-inversion technique for monitoring and mapping localized aerosol plumes and thin clouds, in Application of Lidar to Current Atmospheric Topics, A.J. Sedlacek, III Editor, SPIE Proc. Vol 2833. Bellingham, WA, 1996. pp.251-258
- 14 W. Eichinger, M. Parlange, and H. Stricker, On The Concept of Equilibrium Evaporation And The Value of The Priestley-Taylor Coefficient, *Water Resources Research*, 32(1), pp. 161-164, 1996.
- 13 Eichinger, W., Collins, N., Sefecka, R., and Kraye, H., Program Integrates Lidar Data for Display, *Laser Focus World*, V31 N10, pp: 15-17, 1995.
- 12 M. Parlange, W. Eichinger, and J. Albertson, Regional Scale Evaporation and the Atmospheric Boundary Layer, *Reviews of Geophysics*, Vol 33, #1, pp. 99-124, 1995.
- 11 W. Eichinger, and H. Kraye. 'Lidar in Transportation-Related Air Quality Studies', in 27th ISATA The Motor Vehicle and the Environment - Demands of the Nineties and Beyond, Automotive Automation Limited, Croydon, England, pp. 479-485, 1994.
- 10 C.R. Chu, M. Parlange, W. Eichinger and G. Katul. 'Observations on the Growth of an Internal Boundary Layer with a Lidar Technique', in Fundamentals and Advancements in Hydraulic Measurements and Experimentation, C.A. Pugh Editor, American Society of Civil Engineers, Buffalo, NY, pp. 519-529, 1994.
- 9 D. Cooper and W. Eichinger, 'Structure of the Atmosphere in an Urban Planetary Boundary Layer From Lidar and Radiosonde Observations'. *Journal of Geophysical Research*, Vol. 99, D11, pp. 22937-22948, Nov. 20, 1994.
- 8 D. Cooper, W. Eichinger, D. Hof, D. Jones, R. Quick, and J. Tiee, 'Observations of Coherent Structures From A Scanning Lidar', *Ag. and Forest Met.*, 67, 239-252, 1994.
- 7 W. Eichinger, D. Cooper, F. Archuletta, D. Hof, D. Holtkamp, R. Karl Jr., C. Quick, and J. Tiee. 'Development and Application of a Scanning, Solar-Blind Water Raman-Lidar.', *Applied Optics*, Vol. 33, #18, pp. 3923-3932, 1994.
- 6 W. Eichinger, D. Cooper, D. Holtkamp, R. Karl Jr., J. Moses, C. Quick, and J. Tiee. 'Derivation of Water Vapor Fluxes from Lidar Measurements.' *Boundary Layer Met.* 63: 39-64, 1993.
- 5 W. Eichinger, D. Cooper, W. Buttler, W. Cottingame, and L. Tellier. 'The Use of Lidar for the Evaluation of Traffic-Related Urban Pollution', in 1st Annual Symposium on Coupling Technology to National Need, A. Guenther, L. Higgs, and S. Singer Eds., SPIE Proc. Vol 2102. Bellingham, WA, 1993.
- 4 W. Eichinger, D. Cooper, M. Parlange, and G. Katul. 'The Application of a Scanning, Water-Raman Lidar as a Probe of the Atmospheric Boundary Layer', *IEEE Trans. on Geosci. and Remote Sensing*, Vol 31, 1 pp. 70-79, 1993.
- 3 D. Cooper, W. Eichinger, D. Holtkamp, R. Karl Jr., C. Quick, W. Dugas, and L. Hipps. 'Spatial Variability of Water Vapor Turbulent Transfer Within the Boundary Layer.' *Boundary Layer Met.* 61: 389-405, 1992.
- 2 W. Eichinger and P. O'Reilly, "K-Shell X-ray Production in Vanadium, Cobalt, Copper, Molybdenum and Silver by Low Velocity Protons." *Nuclear Instrumentation and Methods in Physics Research*, B47(4), 355-360, 1990.
- 1 W. Eichinger and P. O'Reilly, "The Effects of Heavy Charged Particle Irradiation of MOSFET Devices." *Applied Computational Electromagnetics Society Journal*, Fall 1988 Vol 3, page 119.

BOOK REVIEWS:

W. Eichinger, Nonlinear Mathematics and Its Applications, Optics & Photonics News, Vol 8:9, (1997), page 56.

BOOK CHAPTERS:

4. Eichinger, W., Hydrological Application of Remote Sensing: Spatially Resolved Measurements of Evaporation by Lidar, Encyclopaedia of Hydrology, Oxford University Press, In Press, 2004.
3. M. Parlange, J. Albertson, W. Eichinger, A. Cahill, T. Jackson, G. Keily and G. Katul, Evaporation: Use of Fast Response Sensors, Raman Lidar, and Passive Microwave Remote Sensing, in Vadose Zone Hydrology, Cutting Across Disciplines, J. Hopmans, ed., Oxford University Press, 1999.
2. Eichinger, W., B. Holmen, and J. Krieger, Wide Area Measurement of Wind Velocities by Lidar, in Water Resources into the New Millennium, R. Walton and R. Nece, Eds., 1999.
1. W. Eichinger, M. Parlange, and G. Katul. 'Lidar Measurements in an Unstably Stratified Turbulent Atmosphere', Land Surface Hydrology, Meteorology and Climate V. Lakshmi, J. Albertson, and J. Schaake Ed. American Geophysical Union, 2001.

TECHNICAL REPORTS:

25. W.E. Eichinger, J. Nichols, J.H. Prueger, L.E. Hipps, C.M.U. Neale, D.I. Cooper, Measuring Evapotranspiration and Virtual Potential Heat Flux using Lidar Technical Report No. 458, October (2006).
24. D.I. Cooper, M.Y. Leclerc, J. Archuleta, R. Coulter, W.E. Eichinger, C.Y.J. Kao and C.J. Nappo. Coherent microscale surface structures observed by a scanning lidar and their contribution to mass exchange in the stable boundary layer. LA-UR-04-4413, June (2004).
23. D.I. Cooper, J. Archuleta, W. Eichinger, J. Nichols, J. Prueger, L. Hipps, C. Neale, and S. Bawazir, Lidar Derived Open Water Evaporation Estimation in Arid Environments at Elephant Butte, LA-UR-04-3456, April (2004).
22. J. Nichols, W.E. Eichinger, D.I. Cooper, J.H. Prueger, L.E. Hipps, C.M.U. Neale, and A. S. Bawazir, Comparison of Evaporation Estimation Methods for a Riparian Area, IIHR Technical Report No. 436, April (2004).
21. D.I. Cooper, J. Archuleta, S. Bawazir, J. Cleaverly, W.E. Eichinger, L. Hipps, C. Neal, and J. Prueger, Raman Lidar Technology for Mapping Consumptive Use: Improved Techniques for Estimating the Spatial Properties of Evapotranspiration over the Riparian Zone, Los Alamos National Laboratory, LA-UR-03-1271, (2003).
20. W.E. Eichinger, J. Nichols, J.H. Prueger, L.E. Hipps, C.M.U. Neale, D.I. Cooper, and A. S. Bawazir, Lake Evaporation Estimation in Arid Environments, IIHR Technical Report No. 430, July 2003.
19. Cooper, D. I., Eichinger, W. E., Archuleta, J. A., Hipps, L., Kao, J., Prueger, J., Lidar derived integral length scales and the Monin-obukhov length, Los Alamos National Laboratory, LA-UR-02-6182 (2002).
18. William Eichinger, Urska Koren, Ronald A. Susott, and Vladimir A. Kovalev, Measurement Of Particulate Matter In Smoke Plumes From Wildland Fires Using Lidar Techniques. IIHR Technical Report No. 427, Sept 2002.
17. F. Stern, M. Muste, L. Benninati, and W. Eichinger, Summary of Experimental Uncertainty Assessment Methodology with Example. IIHR Technical Rpt. 406. July 1999.
16. W.E. Eichinger and H. Krave, The Use of Lidar to Evaluate Existing Incident Management System on I-80 in Morris, Essex, and Passaic Counties in Northern New Jersey. Report No. 980004-7290, July 1998, New Jersey Department of Transportation.
15. Keller, C. ; Cooper, D. ; Eichinger, W. Studies of dynamical processes affecting global climate LA-UR--97-3156, (1998)
14. W. Eichinger, Detection of Chemical Agent Compounds at Long Range, Los Alamos National Laboratory, LA-UR-96-177, (1996).
13. Cooper, D.I. ; Eichinger, W. ; Archuleta, J., Estimation of spatially distributed latent energy flux over complex terrain using a scanning water-vapor Raman lidar, LA-UR--95-2912, (1995)

12. S. Barr, W. Buttler, D. Clark, W. Cottingame, and W. Eichinger, Lidar-Observed Wind Patterns in the New Mexico-Texas Border Region, 9-11 September, 1994. Report to the ATR, (1995).
11. Cooper, D.I. ; Eichinger, W.E. ; Hynes, M.V., High resolution properties of the equatorial Pacific marine atmospheric boundary layer from lidar and radiosonde observations, LA-UR--94-3103, (1994)
10. Buttler, W.T. and Eichinger, W.E., Wind-speed Measurements with a Scanning Elastic-backscatter Lidar, LA-UR--93-4526, (1994).
9. W. Eichinger, W. Buttler, C. Lebeda, D. Cooper, and J. Moses, Barcelona Air Quality Initiative, Alliance for Transportation Research, Project Document ATR 94-1. (1994).
8. W. Eichinger, M. Parlange, and G. Katul, Lidar Measurements of the Scalar Similarity Function in the Unstably Stratified Turbulent Atmosphere, LA-UR-94-842, (1994).
7. Cooper, D. ; Cottingame, W. ; Eichinger, W., High resolution properties of the marine atmospheric boundary layer, LA-UR--94-101, (1994).
6. Eichinger, W. ; Cooper, D. ; Buttler, W., The use of lidar for the evaluation of traffic-related urban pollution, LA-UR--93-3437, (1993)
5. W. Eichinger, D. Cooper, W. Cottingame, P. Forman, M. Osborn, and L. Tellier, The CEPEX Atlas of Water Vapor from the Advanced Raman Lidar Mounted aboard the R.V. Vickers, Los Alamos National Laboratory, LA-UR-93-2745, (1993).
4. D. Cooper, W. Eichinger, W. Cottingame, K. Forman, P. Forman, M. Osborn, and L. Tellier, The CEPEX Atlas of Cirrus Clouds from the Elastic Backscatter Lidar Mounted aboard the R.V. Vickers, Los Alamos National Laboratory, LA-UR-93-2745, (1993).
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