

## Curriculum Vitae

Larry Di Girolamo

Blue Waters Professor

Department of Atmospheric Sciences and National Center for Supercomputing Applications  
University of Illinois at Urbana-Champaign

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### Education

B.Sc. (Honors)	Astrophysics	Queen's University at Kingston	1989
M.Sc.	Meteorology	McGill University	1992
Ph.D.	Atmospheric & Oceanic Sciences	McGill University	1996

### Appointments

2014-current	Blue Waters Professor, University of Illinois and NCSA
2011-current	Professor, Department of Atmospheric Sciences, University of Illinois
2004-2011	Associate Professor, Department of Atmospheric Sciences, University of Illinois
1998-2004	Assistant Professor, Department of Atmospheric Sciences, University of Illinois
1996-1998	Postdoc, Institute for Atmospheric Physics, University of Arizona

### Honors

Research highlight, Front Cover, *IEEE Trans. on Geoscience and Remote Sensing*, Volume 54(7) (2016)  
NASA Group Achievement Award for SEAC<sup>4</sup>RS (2015)  
NASA Group Achievement Award for AirMSPI (2014)  
Conferred, Blue Waters Professor, NCSA and University of Illinois (2014)  
Alan Berman Research Publication Award, Naval Research Laboratory (2013)  
Speaker, Gordon Research Conference on Radiation and Climate (2013)  
Daniel Shapiro Professorial Scholar Award, University of Illinois (2011)  
University of Illinois' List of Teachers Ranked as Excellent (2002, 2004, 2005, 2010-2012, 2014, 2016)  
NASA Group Achievement Award for CRYSTAL-FACE (2003)  
NASA New Investigator Award in Earth Science (2002)  
NASA Group Achievement Award for MISR Team (2001)  
Natural Sciences and Engineering Research Council of Canada Postdoctoral Fellow (1996-1998)

### Satellite Teams

- 2000 – present: Co-I and Science Team Member for the Multi-angle Imaging SpectroRadiometer (MISR); lead developer of cloud screening and cloud fraction by altitude algorithms; cloud and aerosol product validation and science
- 2011 – present: Science Team Member for the Moderate Resolution Imaging Spectroradiometer (MODIS); cloud optical property validation and science
- 2016 – present Co-I and Science Team Member for the Multi-Angle Imager for Aerosols (MAIA); lead developer of cloud algorithms

### Field Experience

- SEAC<sup>4</sup>RS – Studies of Emissions and Atmospheric Composition, Clouds and Climate Coupling by Regional Surveys (NASA, 2013)
- PODEX – Polarimeter Definition Experiment (NASA, 2013)

- GOMACCS – Gulf of Mexico Atmospheric Composition and Climate Study (NOAA, 2006)
- RICO – Rain in Cumulus over Ocean Experiment (NSF, 2004-05)
- CRYSTAL-FACE – Cirrus Regional Study of Tropical Anvils and Cirrus Layers – Florida Area Cirrus Experiment (NASA, 2002)

### **Research Disseminations**

- 58 peer-reviewed journal publications
- 7 peer-reviewed NASA and WCRP technical documents
- 52 invited presentations
- Over 200 authored and co-authored conference abstracts and presentations
- 14 significant media interviews

### **Grants and Contracts**

30 research grants and contracts totaling more than \$10 million awarded from the following sources since appointed to the University of Illinois: *the Boeing Company, the Jet Propulsion Laboratory, the National Aeronautics and Space Administration, the National Oceanic and Atmospheric Administration, the National Science Foundation, the University of Illinois Campus Research Board, and the University of Illinois International Programs and Studies*

### **Editorships of Journals**

- Associate Editor, *Journal of Applied Meteorology* (2003-2004)
- Editor, *Journal of Applied Meteorology and Climatology* (2004-2007)
- Guest Editor, Special Issue for *Remote Sensing of Environment* (2005-2006)

### **Offices Held in Professional Societies**

- American Meteorological Society's Scientific and Technological Activities Commission on Satellite Meteorology and Oceanography (1999 – 2002)
- Co-Chair of the International Society for Photogrammetry and Remote Sensing, Working Group: Atmosphere, Climate and Weather Research (2004 – 2007)
- Membership Committee, University Corporation for Atmospheric Research (2008 – 2011)
- American Meteorological Society's Scientific and Technological Activities Commission on Atmospheric Radiation (2013 – present)

### **Supervision of Graduate Students, Postdocs, and Research Scientists**

- M.S.: Joseph Brewer (2004), Suchismita Bose (2011), Dongwei Fu (current), Conor Haney (2013), Allison Houghton (2014), Daeven Jackson (current), Alexandra Jones (2010), Megan King (2015), Byungsuk Lee (current), Kevin Mueller (2008), Bethany Norris (2012), Eric Snodgrass (2006), Ming Su (current), Jason Tackett (2009), Guangyu Zhao (2003)
- Ph.D.: Alexandra Jones (2016), Lusheng Liang (2009), Micheal Wilson (2009), Yuekui Yang (2007), Guangyu Zhao (2006)
- Postdocs: Sagnik Dey (2007-2010), Iliana Genkova (2005), Mohan Nirala (1999-2000), Guangyu Zhao (2006-2007)
- Research Scientists: Daniel Bramer (2003-2004), Bill Chapman (2004-2014), Matt Freer (2006-2008), Fred Fettingner (2002-2005), Brian Jewett (2009-present), Maxwell Smith (2012-2013), Gala Wind (2001-2002), Guangyu Zhao (2007-present)

## Courses Taught

- Introduction to Meteorology
- Satellite Remote Sensing
- Atmospheric Radiation
- Computational Methods in Radiative Transfer
- Undergraduate Capstone Research

## Articles in Peer-Reviewed Journals

- Di Girolamo, L., and R. Davies, 1994: A band-differenced angular signature technique for cirrus cloud detection. *IEEE Trans. Geosci. Remote Sens.*, **32**, 890–896.
- Di Girolamo, L., and R. Davies, 1995: The image navigation cloud mask for the Multi-angle Imaging SpectroRadiometer (MISR). *J. Atmos. Oceanic Tech.*, **12**, 1215–1228.
- Di Girolamo, L., and R. Davies, 1997: Cloud fraction errors caused by finite resolution measurements. *J. Geophys. Res.*, **102**, 1739–1756.
- Di Girolamo, L., T. Varnai and R. Davies, 1998: Apparent breakdown of reciprocity in reflected solar radiances. *J. Geophys. Res.*, **103**, 8795-8803.
- Hagen, D., D. Crisp, L. Di Girolamo, J.-F. Blavier and T. Ackerman, 1998: Balloon-based measurements of the profile of downwelling shortwave irradiance in the troposphere. *Geophys. Res. Lett.*, **25**, 1887-1890.
- Astin, I., and L. Di Girolamo, 1999: A general formalism for the distribution of the total length of a geophysical parameter along a finite transect. *IEEE Trans. Geosci. Remote Sens.*, **37**, 508–512.
- Di Girolamo, L., 1999: A reciprocity principle applicable to reflected radiance measurements and the searchlight problem. *Appl. Opt.*, **38**, 3196-3198.
- Astin, I., L. Di Girolamo, and H.M. Van de Poll, 2001: Bayesian confidence intervals for true fractional coverage from finite transect measurements: implications for cloud studies from space. *J. Geophys. Res.* **106**, 17303–17310.
- Karner, O., and L. Di Girolamo, 2001: On automatic cloud detection over ocean. *Int. J. Remote Sens.* **22**, 3047-3063.
- Di Girolamo, L., 2002: Reciprocity principle for radiative transfer models that use periodic boundary conditions. *J. Quant. Spectrosc. Radiative Trans.* **73**, 23-27.
- Braverman, A. and L. Di Girolamo, 2002: MISR global data products: a new approach. *IEEE Trans. Geosci. Remote Sens.* **40**, 1626-1636.
- Astin, I., and L. Di Girolamo, 2003: Minimizing systematic error in cloud fraction estimates from cloud radars. *J. Atmos. Oceanic Tech.*, **20**, 707-716.
- Di Girolamo, L., and M.J. Wilson, 2003: A first look at band-differenced angular signatures for cloud detection from MISR. *IEEE Trans. Geosci. Remote Sens.* **41**, 1730-1734.
- Di Girolamo, L., 2003: Generalizing the definition of the bi-directional reflectance distribution function (BRDF). *Remote Sens. Environ.*, **88**, 479-482.

- Zhao, G., and L. Di Girolamo, 2004: A cloud fraction versus view angle technique for automatic in-scene evaluation of the MISR cloud mask. *J. Appl. Meteor.*, **43**, 860-869.
- McFarquhar, G.M., S. Platnick, L. Di Girolamo, H. Wang, G. Wind, and G. Zhao, 2004: Remotely sensed observations of aerosol indirect and semi-direct effects over the Indian ocean. *Geophys. Res. Lett.*, **31**, L21105, doi:10.1029/2004GL020412.
- Di Girolamo, L., T. Bond, D. Bramer, D.J. Diner, F. Fettinger, R.A. Khan, J. Martonchick, M.V. Ramana, V. Ramanathan, and P. Rasch, 2004: Analysis of Multi-angle Imaging SpectroRadiometer (MISR) aerosol optical depths over greater India during winter 2001-2004. *Geophys. Res. Lett.*, **31**, L23115, doi:10.1029/2004GL021273.
- Zhao, G., and L. Di Girolamo, 2006: Cloud fraction errors for trade wind cumuli from EOS-Terra instruments. *Geophys. Res. Lett.*, **33**, L20802, doi:10.1029/2006GL027088
- Brewer, J., and L. Di Girolamo, 2006: Limitations of fractal dimension estimation algorithms with implications for cloud studies. *Atmos. Res.*, **82**, 433-454.
- Astin, I., and L. Di Girolamo, 2006: The relationship between  $\alpha$  and the cross-correlation of cloud fraction. *Quart. J. Roy. Meteor. Soc.*, **132**, 2475-2478.
- Diner, D.J., L. Di Girolamo, and A. Nolin, 2007: Preface to the MISR Special Issue. *Remote Sens. Environ.* 107, 1.
- Frank, T.D., L. Di Girolamo, and S. Geegan, 2007: The spatial and temporal variability of aerosol optical depth in the Mojave Desert of southern California. *Remote Sens. Environ.* 107, 54-64.
- Yang, Y., L. Di Girolamo, and D. Mazzoni, 2007: Selection of the automated thresholding algorithm for the Multi-angle Imaging SpectroRadiometer Camera-by-camera Cloud Mask over land. *Remote Sens. Environ.* 107, 159-171.
- Genkova, I., G. Seiz, G. Zhao, P. Zuidema, and L. Di Girolamo, 2007: Trade wind cumulus cloud top height comparisons from ASTER, MISR, and MODIS. *Remote Sens. Environ.* 107, 211-222.
- Zhao, G., and L. Di Girolamo, 2007: Statistics on the macrophysical properties of trade wind cumuli over the tropical western Atlantic. *J. Geophys. Res.*, 112, D10204, doi: 10.1029/2006JD007371.
- Rauber, R.M., et al. (41 coauthors), 2007: Rain in (shallow) Cumulus over the Ocean – The RICO campaign. *Bull. Amer. Meteor. Soc.*, 88, 1912–1937.
- Rauber, R.M., et al. (41 coauthors), 2007: A supplement to Rain In shallow Cumulus over the Ocean . *Bull. Amer. Meteor. Soc.*, 88, S12–S18.
- Yang, Y., and L. Di Girolamo, 2008: Impacts of 3-D radiative transfer effects on satellite cloud detection and their consequences on cloud fraction and aerosol optical depth retrievals. *J. Geophys. Res.*, 113, D04213, doi:10.1029/2007JD009095.
- Mueller, K., L. Di Girolamo, M. Fromm, and S. Palm, 2008: Stereo observations of polar stratospheric clouds. *Geophys. Res. Lett.*, **35**, L17813, doi:10.1029/2008GL033792.
- Dey, S., L. Di Girolamo, and G. Zhao, 2008: Scale effect on statistics of the macrophysical properties of trade wind cumuli over the tropical western Atlantic during RICO. *J. Geophys. Res.*, **113**, D24214, doi:10.1029/2008JD010295.

- Snodgrass, E.R., L. Di Girolamo, and R.M. Rauber, 2009: Precipitation characteristics of trade winds clouds during RICO derived from radar, satellite, and aircraft measurements. *J. Appl. Meteor. Climatol.*, **48**, 464-483.
- Harshvardhan, G. Zhao, L. Di Girolamo, and R.N. Green, 2009: Satellite-observed location of stratocumulus cloud-top heights in the presence of strong inversions. *IEEE Trans. Geosci. Remote Sens.*, **47**, 1421-1428.
- Liang, L., L. Di Girolamo, and S. Platnick, 2009: View-angle consistency in reflectance, optical thickness and spherical albedo of marine water-clouds over the northeastern Pacific through MISR-MODIS fusion. *Geophys. Res. Lett.*, **36**, L09811, doi:10.1029/2008GL037124.
- Zhao, G., L. Di Girolamo, S. Dey, A.L. Jones, and M. Bull, 2009: Examination of direct cumulus contamination on MISR-retrieved aerosol optical depth and angstrom coefficient over ocean. *Geophys. Res. Lett.*, **36**, L13811, doi:10.1029/2009GL038549.
- Tackett, J.L., and L. Di Girolamo, 2009: Enhanced aerosol backscatter adjacent to tropical trade wind clouds revealed by satellite-based lidar. *Geophys. Res. Lett.*, **36**, L14804, doi:10.1029/2009GL039264.
- Plummer, D.M., S. Goke, R.M. Rauber, and L. Di Girolamo, 2010: Discrimination of mixed- vs. ice-phase clouds using dual polarization radar with application to detection of aircraft icing regions. *J. Appl. Meteor. Climatol.*, **49**, 920-936.
- Dey, S., and L. Di Girolamo, 2010: A climatology of aerosol optical and microphysical properties over the Indian Subcontinent from nine years (2000-2008) of Multiangle Imaging SpectroRadiometer (MISR) data. *J. Geophys. Res.*, **115**, D15204, doi:10.1029/2009JD013395.
- Di Girolamo, L., L. Liang, and S. Platnick, 2010: A global view of one-dimensional solar radiative transfer through oceanic water clouds. *Geophys. Res. Lett.*, **37**, L18809, doi:10.1029/2010GL044094.
- Dey, S., L. Di Girolamo, G. Zhao, A.L. Jones, and G.M. McFarquhar, 2011: Satellite-observed relationships between aerosol and trade-wind cumulus cloud properties over the Indian Ocean. *Geophys. Res. Lett.*, **38**, L01804, doi:10.1029/2010GL045588.
- Minor, H.A., R.M. Rauber, S. Goke, and L. Di Girolamo, 2011: Trade wind cloud evolution observed by polarization radar: relationship to giant condensation nuclei concentrations and cloud organization. *J. Atmos. Sci.*, **68**, 1075-1096.
- Dey, S. and L. Di Girolamo, 2011: A decade of change in aerosol properties over the Indian Subcontinent. *Geophys. Res. Lett.*, **38**, L14811, doi:10.1029/2011GL048153.
- Jones, A.L., L. Di Girolamo, and G. Zhao, 2012: Reducing the resolution bias in cloud fraction from satellite derived clear-conservative cloud masks. *J. Geophys. Res.*, **117**, D12201, doi:10.1029/2011JD017195.
- Dey, S., L. Di Girolamo, A. van Donkelaar, S.N. Trpathi, T. Gupta, and M. Mohan, 2012: Variability of outdoor fine particulate (PM<sub>2.5</sub>) concentration in the Indian subcontinent: a remote sensing approach. *Remote Sens. Environ.*, **127**, 153-161.
- Reid, J.S., E.J. Hyer, R. Johnson, B.N. Holben, J. Zhang, J.R. Campbell, S.A. Christopher, L. Di Girolamo, L. Giglio, R.E. Holz, C. Kearney, J. Miettinen, E.A. Reid, F.J. Turk, J. Wang, P. Xian,

- R.J. Yokelson, G. Zhao, R. Balasubramanian, B.N. Chew, S. Janai, N. Lagrosas, P. Lestari, N.-H. Lin, M. Mahmud, B. Norris, A.X. Nguyen, N.T.K. Oahn, M. Oo, S. Salinas, and S.C. Liew, 2013: Observing and understanding the Southeast Asian aerosol system by remote sensing: An initial review and analysis for the Seven Southeast Asian Studies (7SEAS) program. *Atmos. Res.*, **122**, 403-468
- Liang, L., and L. Di Girolamo, 2013: A global analysis on the view-angle dependence of plane-parallel oceanic water cloud optical thickness using data synergy from MISR and MODIS. *J. Geophys. Res. Atmos.*, **118**, doi:10.1029/2012JD018201.
- Stubenrauch, C.J., W.B. Rossow, S. Kinne, S. Ackerman, G. Cesana, H. Chepfer, L. Di Girolamo, B. Getzewich, A. Guignard, A. Heidinger, B. Maddux, P. Menzel, P. Minnis, C. Pearl, S. Platnick, C. Poulsen, J. Riedi, S. Sun-Mack, A. Walther, D. Winker, S. Zeng, and G. Zhao, 2013: Assessment of global cloud datasets from satellites: Project and Database initiated by the GEWEX Radiation Panel. *Bull. Am. Meteor. Soc.*, **94**, 1031 - 1049.
- Davison, J.L., R.M. Rauber, L. Di Girolamo, and M.A. LeMone, 2013: A revised conceptual model of the tropical marine boundary layer. Part I: statistical characterization of the variability inherent in the wintertime trade wind regime over the Western North Atlantic. *J. Atmos. Sci.* **70**, 3005-3024.
- Davison, J.L., R.M. Rauber, and L. Di Girolamo, 2013: A revised conceptual model of the tropical marine boundary layer. Part II: detecting relative humidity layers using Bragg scattering from S-band radar. *J. Atmos. Sci.* **70**, 3025-3046.
- Davison, J.L., R.M. Rauber, L. Di Girolamo, and M.A. LeMone, 2013: A revised conceptual model of the tropical marine boundary layer. Part III: Bragg scattering layer statistical properties. *J. Atmos. Sci.* **70**, 3047-3062.
- Rauber, R.M., G. Zhao, L. Di Girolamo, and M. Colon-Robles, 2013: Aerosol size distribution and optical property variability near Caribbean trade cumulus clouds – effects of humidity and cloud processing as determined from aircraft measurements. *J. Atmos. Sci.*, **70**, 3063-3083.
- Yu, C., L. Di Girolamo, L. Chen, X. Zhang, Y. Liu, 2014: Statistical evaluation of the feasibility of satellite-retrieved cloud parameters as indicators of PM<sub>2.5</sub> levels. *J. Exposure Sci. Environ. Epidemiol.*, doi:10.1038/jes.2014.49.
- Astin, I., and L. Di Girolamo, 2014: The horizontal scale-dependence of the cloud overlap parameter alpha. *Atmos. Chem. Phys.*, **14**, 9917-9922.
- Cho, H.-M., Z. Zhang, K. Meyer, M. Lebsock, S. Platnick, A.S. Ackerman, L. Di Girolamo, L.C. Labonnote, C. Cornet, J. Riedi, and R.E. Holz, 2015: Frequency and causes of failed MODIS cloud property retrievals for liquid phase clouds over global oceans. *J. Geophys. Res. Atmos.*, **120**, doi:10.1002/2015JD023161.
- Liang, L. L. Di Girolamo, and W. Sun, 2015: Bias in MODIS cloud drop effective radius for oceanic water clouds as deduced from optical thickness variability across scattering angle. *J. Geophys. Res. Atmos.*, **120**, doi:10.1002/2015JD023256.
- Zhao, G., L. Di Girolamo, D.J. Diner, C.J. Bruegge, K. Mueller, and D.L. Wu, 2016: Regional changes in Earth's color and texture as observed from space over a 15-year period. *IEEE Trans. Geosci. Remote Sens.*, **54**(7), 4240-4249, doi:10.1109/TGRS.2016.2538723.

Zhang, Z., F. Werner, H.-M. Cho, G. Wind, S. Platnick, A. S. Ackerman, L. Di Girolamo, A. Marshak, and K. Meyer, 2016: A framework based on 2-D Taylor expansion for quantifying the impacts of subpixel reflectance variance and covariance on cloud optical thickness and effective radius retrievals based on the bispectral method, *J. Geophys. Res. Atmos.*, **121**, doi:10.1002/2016JD024837.

Foster, M.J., S.A. Ackerman, K. Bedka, R.A. Frey, L. Di Girolamo, A.K. Heidinger, S. Sun-Mack, B.C. Maddux, W.P. Menzel, P. Minnis, M. Stengel, and G. Zhao, 2016: Special Issue on the State of the Climate: Cloudiness, *Bull. Am. Meteor. Soc.* (in press).

### **Invited Contribution to Books**

Rauber, R. and L. Di Girolamo, 2002: Imaging in meteorology. *The Encyclopedia of Imaging Science and Technology*, 757-773 J.P. Hornak, Ed., Wiley.

### **Bulletins, Reports, or Conference Proceedings since Ph.D.**

Diner, D. J., L. Di Girolamo and E. Clothiaux, 1997: MISR Level 1 cloud detection algorithm theoretical basis. *JPL D-13397, Rev. A.*, Jet Propulsion Laboratory, Pasadena, CA, 37 pp.

Diner, D. J., R. Davies, L. Di Girolamo, C. Moroney, J.-P. Muller, S. R. Paradise, D. Wenkert, and J. Zong, 1997: MISR Level 2 cloud detection and classification algorithm theoretical basis. *JPL D-11399 Rev. C*, Jet Propulsion Laboratory, Pasadena, CA, 98 pp.

Di Girolamo, L., and R. Davies, 1997: Concerns regarding the application of reciprocity to shortwave radiation measurements. *Proceedings 9th Conf. on Atmospheric Radiation*, February 2–7 Long Beach, CA, 283–286.

Di Girolamo, L., 1998: A comparison of 15 global, non-parametric, automated threshold selection procedures for cloud detection. *Proceedings 9th Conf. on Satellite Meteorology and Oceanography*, May 24-29, Paris, France, 197-200.

Di Girolamo, L., S. Ackerman and E. Clothiaux, 1998: A comparison of the MODIS and MISR cloud masks applied to global AVHRR LAC data. *Proceedings 9th Conf. on Satellite Meteorology and Oceanography*, May 24-29, Paris, France, 555-556.

Clothiaux, E. E., T.P. Ackerman, S.A. Ackerman, P. Minnis, M. A. Miller, J. Verlinde, T. A. Berendes, L. Di Girolamo, J. Key, D. D. Turner, R.A. Frey, C.M. Bachmann, and A. Nolin, 1999: Cloud detection: one possible future in the ARM and EOS timeframes. *Proceedings 10th Conf. on Atmospheric Radiation*, June 28 – July 2, Madison, WI, 258-261.

Diner, D. J., L. Di Girolamo and E. Clothiaux, 1999: MISR Level 1 cloud detection algorithm theoretical basis. *JPL D-13397, Rev. B.*, Jet Propulsion Laboratory, Pasadena, CA, 38 pp.

Diner, D. J., R. Davies, L. Di Girolamo, C. Moroney, J.-P. Muller, S. R. Paradise, D. Wenkert, and J. Zong, 1999: MISR Level 2 cloud detection and classification algorithm theoretical basis. *JPL D-11399 Rev. D*, Jet Propulsion Laboratory, Pasadena, CA, 102 pp.

Di Girolamo, L., E.E. Clothiaux, R. Davies, D.J. Diner, C. Moroney, J.-P. Muller, T. Varnai, and G. Zhao, 2000: MISR: a new way to look at clouds. *Proceedings IEEE Int. Geosci. Remote Sens. Symp.*, July 24 – 28, Honolulu, HI, 947 – 949.

- Zhao, G. and L. Di Girolamo, 2001: Statistical dependence of cloud fraction as a function of view angle derived from MISR data. *Proceedings 11th Conf. on Satellite Meteorology and Oceanography*, Oct. 15-18, Madison, WI, 506-507.
- Wilson, M. and L. Di Girolamo, 2001: Cloud detection from MISR using a band-differenced angular signature. *Proceedings 11th Conf. on Satellite Meteorology and Oceanography*, Oct. 15-18, Madison, WI, 574-576.
- Di Girolamo, L., 2002: New reciprocity principles in 3-D solar radiative transfer theory. *Proceedings 11th Conf. on Atmospheric Radiation*, June 3 – 7, Ogden, UT, 63-64.
- Velden, C., L. Di Girolamo, M. Glackin, J. Hawkins, G. Jedlovec, T. Lee, G. Petty, R. Plante, A. Reale, and J. Zapotocny, 2002: Meeting summary of the 11<sup>th</sup> AMS Conference on Satellite Meteorology and Oceanography. *Bull. Amer. Meteor. Soc.*, **83**, 1645-1648.
- Charlevoix, D.J., L.B. Avilés, and L. Di Girolamo, 2003: Assessment of interactive, hands-on meteorology exercises in a course for undergraduate non-majors. *Proceedings American Meteorology Society 12<sup>th</sup> Symposium on Education*, February 8 – 13, Long Beach, CA. Available on CD-ROM.
- Charlevoix, D.J., R. Herman, L. Di Girolamo, and G. McFarquhar, 2003: Development of in-class exercises to accompany interactive, hands-on meteorology for undergraduate non-majors. *Proceedings American Meteorology Society 12<sup>th</sup> Symposium on Education*, February 8 – 13, Long Beach, CA. Available on CD-ROM.
- Bramer, D.J., D.J. Charlevoix, G.M. McFarquhar, R.L. Herman, L.B. Avilés, L. Di Girolamo, M.K. Ramamurthy, and R.B. Wilhelmson, 2003: developing interactive models to support a digital collection of earth system science resources. *Proceedings American Meteorology Society 12<sup>th</sup> Symposium on Education and 19<sup>th</sup> Symp. Interactive Info. Process. Systems*, February 8 – 13, Long Beach, CA. Available on CD-ROM.
- Brewer, J., and L. Di Girolamo, 2004: Can the fractal dimension of clouds be measured? *Proc. 14<sup>th</sup> Int. Conf. Clouds Precip.* 18 – 23 July, Bologna, Italy. Available on CD-ROM.
- Wilson, M., and L. Di Girolamo, 2004: The utilization of MISR for polar cloud modeling. *Proc. 2004 IEEE Int. Geosci. Remote Sens. Symp.*, 20 – 24 September, Anchorage, AK. Available on DVD.
- Genkova, I., G. Zhao, G. Seiz, E. Snodgrass, M. Colon, L. Di Girolamo, R. Rauber, 2005: Validation of trade wind cumulus cloud properties produced by meteorological satellites. *SPIE International Symp. Remote Sens.*, 19 – 22 September, Bruges, Belgium. Available on CD-ROM.
- Genkova, I., M. Wilson, Y. Yang, G. Zhao, B. Chapman, E. Snodgrass, D. Mazzoni, L. Di Girolamo, 2005: The synergy of the MISR cloud masks for a global cloud climatology. *SPIE International Symp. Remote Sens.*, 19 – 22 September, Bruges, Belgium. Available on CD-ROM.
- Snodgrass, E., L. Di Girolamo, R. Rauber and G. Zhao, 2005: Synergizing high resolution EOS-Terra satellite data and S-POLKA radar reflectivity to assess trade wind cumuli precipitation. *Proc. 11<sup>th</sup> AMS Conf. Mesoscale Processes and 32<sup>nd</sup> Conf. on Radar Meteor.*, 24 – 29 October, 2005, Albuquerque, NM, JP3J.2
- Zhao, G., and Di Girolamo L., 2005: Trade wind cumuli statistics and the impact of finite resolution measurements. *Proc. 11<sup>th</sup> AMS Conf. Mesoscale Processes and 32<sup>nd</sup> Conf. on Radar Meteor.*, 24 – 29 October, 2005, Albuquerque, NM, JP3J.10



- Davison, J., R. Rauber, and L. Di Girolamo, 2008: A radar characterization of the trade wind boundary layer. *Proc. 18<sup>th</sup> Symp. Boundary Layers and Turbulence, 9-13 June, Stockholm, Sweden, 17A.5*
- Colon-Robles, M., R.M. Rauber, J.B. Jensen, and L. Di Girolamo, 2008: Aerosol size distribution variability near Caribbean trade wind cumulus clouds. *Proc. Int. Conf. Clouds Precip.*, 7 – 11 July, Cancun, Mexico, P4.9
- Di Girolamo, L., A. Menzies, G. Zhao, K. Mueller, C. Moroney, and D.J. Diner, 2010: MISR Level 3 Cloud Fraction by Altitude Theoretical Basis, JPL D-62358, Jet Propulsion Laboratory, Pasadena, CA, 23 pp.
- Mueller, K., M.J. Garay, L. Di Girolamo, V. Jovanovic, and C. Moroney, 2010: MISR Cloud Motion Vector Product Algorithm Theoretical Basis, JPL D-64973, Pasadena, CA, 28 pp.
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