

HIRDLS Publications

| Authors | Title | Publication | Year | Refereed |
|---|--|--|------|----------|
| 2013 Papers | | | | |
| Eden, T.E., et al. | Pre-launch Radiometric Calibration of the HIRDLS Flight Instrument: Results and Use in On-orbit Data Processing | In process | 2013 | Yes |
| Gille, J.C. | Validation of the Aura High Resolution Dynamics Limb Sounder Version 7 temperature | In process | 2013 | Yes |
| Gille, J.C. | Validation of HIRDLS Water Vapor | In process | 2013 | Yes |
| Gille, J. C., et al. | Dynamical origins of the large annual variation in total column ozone in high norther latitudes | In process | 2013 | Yes |
| Gille, J.C., Karol, S., et al. | Mixing in the Northern Hemisphere Lower Stratosphere | In process | 2013 | Yes |
| Gille, J.C., et al. | Lower stratospheric mixing as seen in HIRDLS observations, compared with mixing in the WACCM model | In process | 2013 | Yes |
| Gille, J.C, Karol, S., et al. | A technique for evaluating the strength of the Brewer-Dobson circulation | In process | 2013 | Yes |
| Hartsough, C., L.L. Smith & J.C. Gille | Observations of Troposphere-Stratosphere Exchange & Structure above the Asian Monsoon for Aura's High Resolution Dynamics Limb Sounder | J. Geophys. Res. Atmospheres, in process | 2013 | Yes |
| Massie, S.T., R. Khosravi, & J.C. Gille | A multi-decadal study of cirrus in the tropical tropopause layer | J. Geophys. Res. Atmospheres, in publication 2012JD019374 | 2013 | Yes |
| Nardi, B., V. Yudin & J.C. Gille | HIRDLS V7 Observations of Ozone Layers in the Extra-tropics and Validation of Vertical Resolution | ACP, In process | 2013 | Yes |
| Nardi, B. | Validation of HIRDLS V7 CFC11 and CFC12 Observations | ACP, In process | 2013 | Yes |
| Peevey, T. | Observations of the UTLS: An Analysis of the Double Tropopause and its Relationship to Rossby Waves and the Tropopause Inversion Layer | Thesis Dissertation | 2013 | No |
| Smith, L.L. & J. C. Gille | Validation of the Aura High Resolution Dynamics Limb Sounder Geopotential Heights (in process) | J. Geophys. Res. Atmospheres, in process | 2013 | Yes |
| Wright, C., S.M. Osprey & J.C. Gille | Global observations of gravity wave intermittency and its impact on the observed momentum flux morphology. | Submitted to JGR (May, 2013) | 2013 | Yes |
| Wright, C.J., et al. | A three-year global climatology of gravity wave wave numbers as measured by the High Resolution Dynamics Limb Sounder | Submitte to J. Atmos. Sci. (June, 2013) | 2013 | Yes |
| Wright, C. J. & J.C. Gille | Detecting overlapping gravity waves using the S-Transformer | J. Geophys. Res. Letter, 40, doi:10.1002/grl.50378 | 2013 | Yes |
| Yudin, V. A., J.C. Gille, B. Nardi & S.I. Karol | On the resolution-dependent analysis of ozone vertical structures in the extra-tropical UTLS | Open Access Journal EGU | 2013 | No |
| Yudin, V.A., B. Nardi, J.C. Gille, S.I. Karol | On the annual variations of ozone laminas in the lower stratosphere | Open Access Journal EGU | 2013 | No |
| 2012 Papers | | | | |
| Castanheira, J.M., T. R. Peevey, C. A. F. Marques, & M.A. Olsen | Relationships between Brewer-Dobson Circulation, double tropopauses, ozone and stratospheric water vapour | Atmos. Chem. Phys., 12(21), 10195-10208, doi:10.5194/acp-12-10195-2012 | 2012 | Yes |
| Ern, M.,and P. Preusse, | Gravity wave momentum flux spectra observed from Satellite in the summertime subtropics : Implication for global modeling | Geophys. Res. Letter, 39 doi:10.1029/2012GL052659 | 2012 | Yes |
| France, Jeffrey A. , V. Lynn Harvey, M.Joan Alexander, Cora E. Randall, John C. Gille | HIRDLS Observations of the Gravity Wave-driven Elevated Stratopause in 2006 | J. Geophys. Res. Vol 117, doi:10.1029/2012JD017958 | 2012 | Yes |

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|---|---|--|------|-----|
| Peevey (Phillips), T., J.C. Gille, C. Randall, A. Kunz | Investigation of Double Tropopause Spatial and Temporal Global Variability Utilizing HIRDLS Temperature Observations. | J. Geophys. Res. Vol 117, D01105; doi: 10.1029/2011JD016443, 2012 | 2012 | Yes |
| Riihimake, L.D., S.A. McFarlane, C. Liang, S.T. Massie, N. Beagley, T.D. Toth | Comparison of methods to dermine Tropical Tropopause Layer cirrus formation mechanisms | J. Geophys. Res. Vol 117, D06218, doi: 10.1029/2011JD016832 | 2012 | Yes |
| Shutts, G.J. & S.B. Vosper | Stratospheric gravity waves relealed in NWP model forecasts | Q.J. R. Meteorol. Soc., 137 (655), 303-317, doi:10.1002/qj.763 | 2011 | No |
| Sembhi, H., J. Remedios, T. Trent, D.P. Moore, R. Spang, S. Massie, and J.P. Verniers | MIPAS detection of cloud and aerosol particle occurrence in the UTLS with comparison to HIRDLS and CALIOP | Atmos. Meas. Tech. 5(10), 2537-2553, doi:10.5194/amt-5-2537-2012 | 2012 | No |
| Stolarski, R.S., A. R. Douglass, E.E. Remsberg, N.J. Livesey, and J.C. Gille | Ozone temperature correlations in the upper stratosphere as a measure of chlorine content | J. Geophys. Res. - Atmos, 117, doi:10.1029/2012JD017456 | 2012 | Yes |
| 2011 Papers | | | | |
| Alexander, M.J. & Hector Teitelbaum | Three-dimensional properties of Andes mountain waves observed by satellite: A Case Study | J. Geophys. Res. Vol 116 D23110, doi:10.1029/2011JD016151, 2011 | 2011 | Yes |
| Ern, M., P. Preusse, J.C. Gille, C.L. Hepplewhite, M.G. Mlynczak | Implications for atmospheric dynamics derived from global observations of gravity wave momentum flux in stratosphere and mesosphere | J. Geophys. Res. Vol 116, D19107, doi: 10.1029/2011JD015821, 2011 | 2011 | Yes |
| Ryu, J.H., M.J. Alexander & D.A. Orland | Euqatorial Waves in the Upper Troposphere and Lower Stratosphere Forced by Latent Heating Estimated from TRMM Rain Rates, | J. Atoms. Sci, 68 (10), 2321-2342, doi:10.1175/2011JAS3647.1 | 2011 | Yes |
| Wells, H., S.B. Vosper, and X. Yan | An assessment of a mountain-ave parametrization scheme using satellite observations of stratospheric gravity waves | Q.J. R. Meteorol. Soc., 137 (656), 819-828, doi:10.1002/qj.790 | 2011 | No |
| Wright, C. , M. Belmonte-Rivas, J. Gille | Intercomparisons of HIRDLS, COSMIC and SABER for the detection of stratospheric gravity waves | Atmos. Meas. Tech. Discuss. (2011), 4, 1581-1591, 2011 doi:10.5194/amt-4-1581-2011 | 2011 | Yes |
| Wright, C.J., J.C. Gille | HIRDLS observations of gravity wave momentum fluxes over the monsoon regions | J. Geophys. Res. VOL. 116, D12103, 10 PP., 2011 doi:10.1029/2011JD015725 | 2011 | Yes |
| 2010 Papers | | | | |
| Alexander, M. J., Orland, D. | Equatorial waves in High Resolution Dynamics Limb Sounder (HIRDLS) data | J. Geophys. Res. (2010); doi:10.1020/2010JD014782 | 2010 | Yes |
| Eden, T., J. Barnett, J. Gille, K. Djotni, C. Hepplewhite, O. Oduleye, J. Whitney | Spectral characterization of the HIRDLS flight instrument from prelaunch calibration data | IEEE, Geoscience & Remote Sensing, Vol. 48, Issue 7 (2010), pp. 3028-3038; 10.1109/TGRS.2010.2043676 | 2010 | Yes |
| Massie, S., J. Gille, C. Craig, R. Khosravi, J. Barnett, W. Read | HIRDLS and CALIPSO observations of tropical cirrus | J. Geophys. Res. (2010), 115, D00H11; doi: 10.1029/2009JD012100 | 2010 | Yes |
| Olsen, M. A., A. Douglass, M. Schoeberl, J. Rodriquez, Y. Yasuko | Interannual variability of ozone in the winter lower stratosphere and the relationship to lamina and irreversible transport | J. Geophys. Res. (2010), 115, D15305; doi:10.1029/2009JD013004 | 2010 | Yes |
| Wright, C., S.M. Osprey, J.J. Barnett, L.J. Gray, J.C. Gille | HIRDLS measurements of gravity wave activity in the 2006 Arctic stratosphere | J. Geophys. Res. (2010), 115; D02105, doi: 10.1029/2009JD011858 | 2010 | Yes |
| Yan, X., N. Arnold, J. Remedios | Global observations of gravity waves from HIRDLS temperature measurements: A year-long record of gravity wave temperature amplitude and vertical wavelength | J. Geophys. Res., 115 (2010), D10113; doi:10.1029/2008JD011511 | 2010 | Yes |
| 2009 Papers | | | | |
| Eden, Thomas | Pre-launch Radiometric Calibration of the HIRDLS Flight Instrument: Results and Use in On-orbit Data Processing | SPIE | 2009 | No |

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|---|--|--|------|-----|
| Hoffmann, L., M.J. Alexander | Retrieval of stratospheric temperatures from AIRS radiance measurements for gravity wave studies | J. Geophys. Res. (2009), 114, D07105; doi:10.1029/2008JD011241 | 2009 | Yes |
| Khosravi, R., A. Lambert, H. Lee, J. Gille, J. Barnett, G. Francis, D. Edwards, C. Halvorson, S. Massie, C. Craig, C. Krinsky, J. McInerney, K. Stone, T. Eden, B. Nardi, C. Hepplewhite, W. Mankin, M. Coffey | Overview and characterization of retrievals of Temperature and atmospheric constituents from HIRDLS measurements. Also, correction to "overview and characterization of retrievals of temperature, pressure, and atmospheric constituents from High Resolution Dynamics Limb Sounder (HIRDLS) measurements" | J. Geophys. Res. (2009), 114, D20304; doi:10.1029/2009JD011937; D23399, doi:10.1029/2009JD013507 | 2009 | Yes |
| Pan, L., W. Randel, J. Gille, W. Hall, B. Nardi, S. Massie, V. Yudin, R. Khosravi | Tropospheric intrusions associated with the secondary tropopause | J. Geophys. Res. (2009), 114, D10302; doi:10.1029/2008JD011374 | 2009 | Yes |
| Singh, H.B., W.H. Brune, J.H. Crawford, F. Flocke, D.J. Jacob | Chemistry and transport of pollution over the Gulf of Mexico and the Pacific: Spring 2006 INTEX-B Campaign; overview and first Results | Atmospheric Chemistry & Physics (2009), Vol 9, pp. 2301-2318; doi:10.5194/acp-0-2301-2009 | 2009 | No |
| Wang, L., M. Alexander | Gravity wave activity during stratospheric sudden warming in the 2007/08 northern hemisphere winter | J. Geophys. Res. (2009), 114, D18108; doi:10.1029/2009JD011867 | 2009 | Yes |
| 2008 Papers | | | | |
| Alexander, M., J. Gille, C. Cavanaugh, M. Coffey, C. Craig, T. Eden, G. Francis, C. Halvorson, J. Hannigan, R. Khosravi, D. Kinnison, H. Lee, S. Massie, B. Nardi, J. Barnett, C. Hepplewhite, A. Lambert, V. Dean | Global estimates of gravity wave momentum flux from High Resolution Dynamics Limb Sounder (HIRDLS) observations | J. Geophys. Res. (2008), 113, D15S18; doi:10.1029/2007JD008807 | 2008 | Yes |
| Barnett, J., C. Hepplewhite, S. Osprey, J. Gille, R. Khosravi | Cross-validation of HIRDLS and COSMIC radio-occultation retrievals, particularly in relation to Fine vertical Structure | Proceedings SPIE (2008), 7082; doi: 10.1117/12.800702 | 2008 | No |
| Coffey, M., J. Hannigan, A. Goldman, D. Kinnison, J. Gille, J. Barnett, L. Froidevauz, A. Lambert, M. Santee, N. Livesey, B. Fisher, S. Kulawik, and R. Beer | Airborne Fourier Transform Spectrometer (FTS) observations in support of EOS Aura validation | J. Geophys. Res. (2008), 113, D16S42; doi:10.1029/2007JD008833 | 2008 | Yes |
| Eden, T. | Model estimation of the HIRDLS exit aperture fractional open area | Proceedings SPIE (2008), 7082; doi: 10.1117/12.796985 | 2008 | No |
| Gille, J., J. Barnett, P. Arter, M. Barker, P. Bernath, C. Boone, C. Cavanaugh, J. Chow, M. Coffey, J. Craft, C. Craig, M. Dials, V. Dean, T. Eden, D. Edwards, G. Francis, C. Halvorson, L. Harvey, C. Hepplewhite, R. Khosravi, D. Kinnison, C. Krinsky, A. Lambert, H. Lee, L. Lyjak, J. Loh, W. Mankin, S. Massie, J. McInerney, J. Moorhouse, B. Nardi, D. Packman, C. Randall, J. Reburn, W. Rudolf, M. Schwartz, J. Serafin, K. Stone, B. Torpy, K. Walker, A. Waterfall, R. Watkins, J. Whitney, D. Woodard, G. Young | High Resolution Dynamics Limb Sounder (HIRDLS): experiment overview, recovery and validation of initial temperature data | J. Geophys. Res. (2008), 113, D16S43; doi:10.1029/2007JD008824 | 2008 | Yes |
| Kinnison, D.E., J. Gille, J. Barnett, C. Randall, L. Harvey, A. Lambert, R. Khosravi, M. Alexander, P. Bernath, C. Boone, C. Cavanaugh, M. Coffey, C. Craig, V. Dean, T. Eden, T. Ellis, D. Fahey, G. Francis, C. Halvorson, J. Hannigan, C. Hartsough, C. Hepplewhite, C. Krinsky, H. Lee, B. Mankin, T. Marcy, S. Massie, B. Nardi, D. Packman, P. Popp, M. Santee, V. Yudin, K. Walker | Global observations of HNO ₃ from the High Resolution Dynamics Limb Sounder (HIRDLS) - first results | J. Geophys. Res. (2008), 113, D16S44; doi:10.1029/2007JD008814 | 2008 | Yes |

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|---|---|--|------|-----|
| Nardi, B. J. Gille, J. Barnett, C. Randall, V. Harvey, A. Waterfall, W. Reburn, T. Leblanc, T. McGee, L. Twigg, A. Thompson, S. Godin-Beekmann, P. Bernath, B. Bojkow, C. Boone, C. Cavanaugh, M. Coffey, J. Craft, C. Craig, V. Dean, T. Eden, G. Francis, L. Froidevaux, C. Halvorson, J. Hannigan, C. Hepplewhite, D. Kinnison, R. Khosravi, C. Krinsky, A. Lambert, H. Lee, J. Loh, S. Massie, I. McDermid, D. Packman, B. Torpy, J. Walverde-Canossa, K. Walker, D. Whiteman, J. Witte, G. Young | Initial Validation of ozone measurements for the High Resolution Dynamics Limb Sounder (HIRDLS) | J. Geophys. Res. (2008), 113, D16S36; doi:10.1029/2007JD008837 | 2008 | Yes |
| Olsen, M.A., A. Douglass, P. Newman, J. Gille, B. Nardi, V. Yudin, D. Kinnison, R. Khosravi | HIRDLS observations and simulation of a lower stratospheric intrusion of tropical air to highlatitudes | J. Geophys. Res. Letters (2008), Vol. 35, L21813; doi:10.1029/2008GL035514 | 2008 | Yes |
| Schoeberl, M., A. Douglass, J. Joiner | Introduction to special section on Aura validation | J. Geophys. Res. (2008), Vol. 113, D15S01; doi:10.1029/2007JD009602 | 2008 | Yes |
| 2007 Papers | | | | |
| Alexander, M. | Spectacular mountain wave events observed by HIRDLS | CAWSES News (Sept., 2007), Vol. 4, Number 2 | 2007 | No |
| Alexander, M., C. Barnett | Using satellite observations to constrain parameterizations of gravity wave effect for global models | Journal of the Atmospheric Sciences (May, 2007), Vol 64, Issue 5 pp. 1652-1665; doi: 10.1175/JAS3897.1 | 2007 | Yes |
| Massie, S., J. Gille, R. Khosravi, H. Lee, D. Kinnison, G. Francis, B. Nardi, T. Eden, C. Craig, C. Halvorson, M. Coffey, D. Packman, C. Cavanaugh, J. Craft, V. Dean, D. Ellis, J. Barnett, C. Hepplewhite, A. Lambert, G. Manney, A. Strawa, M. Legg | High resolution dynamics limb sounder observations of polar stratospheric clouds and subvisible Cirrus. | J. Geophys. Res. (2007), 112, D24S31; doi:10.1029/2007JD008788 | 2007 | Yes |

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| 2006 Papers | | | | |
|--|---|--|------|-----|
| Francis, G., D. Edwards, A. Lambert, C. Halvorson, J. Lee-Taylor, J. Gille | Forward modeling and radiative transfer for the NASA EOS Aura High Resolution Dynamics Limb Sounder (HIRDLS) instrument | J. Geophys. Res. (2006), 111, D13301; doi:10.1029/2005JD006270 | 2006 | Yes |
| Hilsenrath, E., et al. | Early data from Aura and continuity from UARS and TOMS | Space Sci. Rev., 125(1-4), 417-430, doi:10.1007/s11214-006-9074-1 | 2006 | No |
| Schoeberl, M.R. et al. | Overview of the EOS Aura Mission | EEE Trans. Geosci, Remote Sensing, 44(5), 1066-1074, doi:10.1109/TGRS.2005.861950 | 2006 | No |
| Papers Prior to 2004 Launch | | | | |
| Edwards, D., G. Zaragoza, M. Riese, M. Lopez-Puertas | Evidence of H ₂ O nonlocal thermodynamic equilibrium emission near 6.4 μ m as measured by cryogenic infrared spectrometers and telescopes for the atmosphere (CRISTA 1). | J. Geophys. Res. (2000), 105, D23; doi:10.1029/2000JD900350 | 2000 | Yes |
| Palmer, C., J. Whitney | The radiometric calibration budget for the High Resolution Dynamics Limb Sounder | Journal of Atmospheric and Oceanic Technology (April 1996), Vol. 13, Issue 2, pp. 336-348 | 1996 | Yes |
| Pruesse, P., A. Dornbrack, S. Eckermann, M. Riese, B. Schaeler, J. Bacmeister, D. Broutman, K. Grossmann | Space-based measurements of stratospheric mountain waves by CRISTA 1. Sensitivity, analysis method, and a case study | Journal of Geophysical Research (2002), Vol. 107, No. D23, 8178; doi:10.1029/2001JD000699 | 2002 | Yes |
| Stiller, G., T. vonClarmann, B. Funke, N. Glatthor, F. Hase, M. Hopfner, A. Linden | Sensitivity of trace gas abundances retrievals from infrared limb emission spectra to simplifying approximations in radiative transfer modelling | Journal of Quantitative Spectroscopy and Radiative Transfer (1 Feb 22), Vol. 72, Issue 3, pp. 249-280; doi:10.1016/S0022-4073(01)00123-6 | 2002 | Yes |
| Zhou, X., J. Holton | Intraseasonal variations of tropical cold-point tropopause temperatures | Journal of Climate (June, 2002), Vol. 15, Issue 12, pp. 1460-1473 | 2002 | Yes |
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