

SCOTT E. PALO
VICTOR CHARLES SHELKE ENDOWED PROFESSOR
ANN AND HJ SMEAD DEPARTMENT OF AEROSPACE ENGINEERING SCIENCES
UNIVERSITY OF COLORADO BOULDER

EDUCATION

PH.D., UNIVERSITY OF COLORADO, ELECTRICAL ENGINEERING, 1994

Dissertation Title: *Analysis of the semiannual oscillation and the quasi-two-day wave in the mesosphere and lower-thermosphere using a spectral model and data collected with the Christmas Island radar systems.*

Thesis Advisor: Susan K. Avery

M.S., UNIVERSITY OF COLORADO, ELECTRICAL ENGINEERING, 1990

B.S., CLARKSON UNIVERSITY, ELECTRICAL AND COMPUTER ENGINEERING, 1987

RESEARCH AND ACADEMIC EXPERIENCE

UNIVERSITY OF COLORADO, BOULDER CO

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|---------------|---|
| 07/14-Present | Endowed Professor, Ann and HJ Smead Department of Aerospace Engineering Sciences |
| 8/21-Present | Associate Director, SpectrumX an NSF Spectrum Innovation Center |
| 12/12-Present | Affiliate Faculty, Atmospheric and Oceanic Sciences Department |
| 10/07-Present | Courtesy Appointment, Electrical, Computer and Energy Engineering Department |
| 07/17-06/18 | Faculty Director for Aerospace and Defense |
| 07/14-06/17 | Associate Dean for Research, College of Engineering and Applied Science |
| 05/13-6/14 | Professor, Department of Aerospace Engineering Sciences |
| 11/11-06/14 | Associate Chair for Undergraduate Studies, Aerospace Engineering Sciences |
| 08/08-05/13 | Associate Professor, Department of Aerospace Engineering Sciences |
| 08/01-08/08 | Assistant Professor, Department of Aerospace Engineering Sciences |
| 04/99-08/01 | Assistant Research Professor, Joint appointment with Aerospace Engineering Sciences and Electrical and Computer Engineering |
| 01/97-04/99 | Research Associate, Aerospace Engineering Sciences |

NATIONAL CENTER FOR ATMOSPHERIC RESEARCH, BOULDER CO

01/95-01/97 Postdoctoral Research Fellow, High Altitude Observatory

UNIVERSITY OF COLORADO, BOULDER CO

05/88-12/94 Research Assistant, Electrical and Computer Engineering

BUSINESS EXPERIENCE

BLUE CUBED LLC, BOULDER CO

05/18-Present CEO and Co-Founder

DELTA PINNACLE CONSULTING LLC, BOULDER CO

03/18-Present CEO and Founder

BLUE CANYON TECHNOLOGIES (BCT), BOULDER CO

09/10-12/20 RF and systems technical consultant

AWARDS AND HONORS

Fellow, American Institute of Aeronautics and Astronautics (AIAA), 2023

For pioneering leadership in the conception, design, implementation, and operation of small satellites for scientific applications, and the development of educational programs in small satellites.

University of Colorado, College of Engineering Distinguished Alumni Award, 2019

Aerospace Engineering Sciences Distinguished Performance Award, 2016

Max S. Peters College of Engineering Service Award, 2015

Victor Charles Schelke Endowed Professor, 2014

Inaugural Aerospace Engineering Sciences Service Award, 2014

NASA Group Achievement Award – MIZOPEX Campaign, 2014

University of Colorado Emerging Leaders Program Fellow, 2012-2013

University of Canterbury – Erskine Fellow, 2009

United States Antarctic Service Medal, 2008

University of Colorado - Council on Creative Work Faculty Fellowship, 2008

NASA Group Achievement Award – TIMED mission, 2008

University of Colorado - Dean's Award for Outstanding Junior Faculty, 2007

AIAA - Educator of the Year, Rocky Mountain Region, 2007

Fulbright Senior Specialist Fellowship, 2007

Sigma Xi - Northwest Regional Young Investigator, 2004 & 2006

National Science Foundation - Early Career Award, 2005

University of Colorado - Dean's Outstanding Teaching Award, 2005

National Center for Atmospheric Research - HAO Postdoctoral Research Fellow, 1995-1997

PROFESSIONAL ORGANIZATIONS

American Institute of Aeronautics and Astronautics (AIAA) – Fellow
Institute of Electrical and Electronic Engineers (IEEE) – Senior Member
American Geophysical Union (AGU) – Regular Member
International Union of Radio Scientists (URSI) – Regular Member Commission G
American Society of Engineering Educators (ASEE) – Regular Member
Sigma Xi – Full member

RESEARCH CENTER AFFILIATIONS

Colorado Center for Astrodynamics Research (CCAR)
Research and Engineering Center for Unmanned Vehicles (RECUV)

SCOTT E. PALO

PUBLICATIONS

PEER-REVIEWED JOURNAL ARTICLES (4620[#] CITATIONS, H-INDEX 39, I-10 INDEX 89)

1. Forbes, J. M., X. Zhang, and S.E. Palo, "UFKW propagation in the dissipative thermosphere", *Journal of Geophysical Research: Space Physics*, 128, e2022JA030921, 2023.
<https://doi.org/10.1029/2022JA030921>
2. Marino¹, J., S.E. Palo, S. E., & N. Rainville, "First observations from a new meteor radar at McMurdo Station Antarctica (77.8°S, 166.7°E)" *Radio Science*, 57, 2022RS007466, 2022.
<https://doi.org/10.1029/2022RS007466>
3. Harvey V.L., C.E. Randall, S.M. Bailey, E. Becker, J.L. Chau, C.Y. Cullens, L.P. Goncharenko, L.L. Gordley, N.P. Hindley, R.S. Lieberman, H-L Liu, L. Megner, S.E. Palo, N.M. Pedatella, D.E. Siskind, F. Sassi, A.K. Smith, G. Stober, C. Stolle and J. Yue, "Improving ionospheric predictability requires accurate simulation of the mesospheric polar vortex", *Front. Astron. Space Sci.* 9:1041426, 2022.
<https://doi.org/10.3389/fspas.2022.1041426>
4. Johnson¹, K., J.H. Jiang, Q. Yue, K.A. Fahy, & S. Palo, "ENTICE satellite orbital simulator to study ice clouds", *Earth and Space Science*, 9, e2021EA002145, 2022.
<https://doi.org/10.1029/2021EA002145>
5. Dahir¹, A., C. Gillard, B. Wallace, J. Sobtzak, S.E. Palo and D. Kubitschek, "Forgoing Time and State – The Challenge for CubeSats on Artemis-1", *J. of Small Satellites*, Vol . 10(2), 2021.
6. Rainville¹, N., S.E. Palo and K. Larson, "Modelling GPS Signal Propagation through Volcanic Plumes", *J. of Geophysical Research: Space Physics*, 126, e2020JD034526, 2021.
<https://doi.org/10.1029/2020JD034526>
7. Wang¹, J. C., Palo, S. E., Forbes, J. M., Marino, J., Moffat-Griffin, T., & Mitchell, N. J, "Unusual quasi 10-day planetary wave activity and the ionospheric response during the 2019 Southern Hemisphere sudden stratospheric warming", *J. of Geophysical Research: Space Physics*, 126, e2021JA029286, 2021.
<https://doi.org/10.1029/2021JA029286>
8. Wang¹, J.C, S.E. Palo, H.L. Liu and D.E. Siskind, "Day-to-Day Variability of Diurnal Tide in the Mesosphere and Lower Thermosphere Driven From Below", *J. of Geophysical Research: Space Physics*, Vol 126(2), 2021.
<https://doi.org/10.1029/2019JA027759>
9. Van Buren¹, D., P. Axelrad, K.M. and S. Palo, "A low complexity smoothing algorithm for improved GPS point solutions on board LEO spacecraft", *NAVIGATION, Journal of the Institute of Navigation*, Vol 68(1), pp. 185-198, 2021.
<https://doi.org/10.1002/navi.410>
10. Van Buren¹, D., P. Axelrad, K.M. and S. Palo, "Design of a high-stability heterogeneous clock system for small satellites in LEO", *GPS Solutions*, Vol 25(3), pp. 1-14, 2021.
<https://doi.org/10.1007/s10291-021-01134-x>

[#] <https://scholar.google.com/citations?user=LSxumr4AAAAJ&hl=en>

¹ Graduate student is first author.

11. Stober, G. D. Janches, V. Matthias, D. Fritts, J. Marino, T. Moffat-Griffin, K. Baumgarten, W. Lee, D. Murphy, Y.H. Kim, N. Mitchell and S. Palo, "Seasonal evolution of winds, atmospheric tides, and Reynolds stress components in the Southern Hemisphere mesosphere–lower thermosphere in 2019", *Annales Geophysicae*, Vol 29(1), pp. 1-29, 2021
<https://angeo.copernicus.org/articles/39/1/2021/angeo-39-1-2021.html>
12. Mason, J.P, T.N. Woods, P.C. Chamberlin, A. Jones, R. Kohnert, B. Schwab, R. Sewell, A. Caspi, C.S. Moore, S.E. Palo, S. Solomon, and H. Warren, "MinXSS-2 CubeSat mission overview: Improvements from the successful MinXSS-1 mission", *Adv. Space Res.*, Vol 66(1), pp. 2-9, 2020.
<https://doi.org/10.1016/j.asr.2019.02.011>
13. Rainville¹, N., S.E. Palo, K.M. Larson and M. Mattia, "Design and Preliminary Testing of the Volcanic Ash Plume Receiver Network", *J. Atmos. Ocean Tech*, Vol 36(3), pp. 353-367, 2019.
<https://journals.ametsoc.org/doi/abs/10.1175/JTECH-D-18-0177.1>
14. Buck¹, S., S. Oerlemans and S.E. Palo, "Experimental Validation of a Wind Turbine Turbulent Inflow Noise Prediction Code", *AIAA Journal*, Vol. 56, No. 4, pp. 1495-1506, 2018.
<https://doi.org/10.2514/1.J056134>
15. de Boer, G., M.D. Ivey, B. Schmid, D.A. Lawrence, D. Dexheimer, F. Mei, J. Hubbe, A.O. Bendure, J.O.E. Hardesty, M.D. Shupe, A. McComiskey, H. Telg, C. Schmitt, S. Y. Matrosov, I. Brooks, J. Creamean, A. Solomon, D.D. Turner; C. Williams; M. Maahn, B. Argrow; S.E. Palo; C.N. Long; R-S Gao, and J. Mather, "A Bird's Eye View: Development of an Operational ARM Unmanned Aerial Capability for Atmospheric Research in Arctic Alaska", *Bulletin of the American Meteorological Society*, Vol 99(6), pp. 1197-1212, 2018.
<https://doi.org/10.1175/BAMS-D-17-0156.1>
16. Vaudrin¹, C., and S.E. Palo, "Complex Plane Specular Meteor Radar Interferometry", *Radio Sci.*, Vol 51, No. 1, pp 112-128, 2018.
<https://doi.org/10.1002/2017RS006317>
17. Mason, J.P, M. Baumgart, B. Rogler, C. Downs, M. Williams, T.N. Woods, S.E. Palo, P.C. Chamberlin, S. Solomon, A. Jones, X. Li, R. Kohnert and A. Caspi, "MinXSS-1 CubeSat On-Orbit Pointing and Power Performance: The First Flight of the Blue Canyon Technologies XACT 3-axis Attitude Determination and Control System", *J. of Small Satellites*, Vol 6., No. 3, pp 651-662, 2017.
18. Loucks¹, D.C, S.E. Palo, M.D. Pilinski, G. Crowley, I. Azeem and D. Hampton, "High-Latitude GPS Phase Scintillation from E Region Electron Density Gradients During the December 20-21, 2015 Geomagnetic Storm", *J. of Geophysical Research Space Physics*, Vol. 122, No. 7, 7473-7490, 2017.
<http://dx.doi.org/10.1002/2016JA023839>
19. Larson, K.M. S.E. Palo, C. Roesler, M. Mattia, V. Bruno, M. Coltelli and D. Fee, "Detection of Plumes at Redoubt and Etna Volcanoes using the GPS SNR Method", *J. of Volcanology Geothermal Research*, Vol 344, 26-39, 2017.
<http://doi.org/10.1016/j.jvolgeores.2017.04.005>
20. Lieberman, R.S., D.M. Rigglin, V. Nguyen, S.E. Palo, D.E. Siskind, N.J. Mitchell, G. Strober, S. Wilhelm and N.J. Livesey, "Global observations of two-day wave coupling to the diurnal tide", *J. of Geophysical Research Atmospheres*, Vol 122, No. 8, 4135-4149, 2017.
<http://dx.doi.org/10.1002/2016jd025144>

21. Woods, T.N. A. Caspi, P.C. Chamberlin, A. Jones, R. Kohnert, J.P. Mason, C.S. Moore, S. Palo, C. Rouleau, S.C. Solomon, J. Machol, R. Vierec, "New Solar Irradiance Measurements from the Miniature X-Ray Solar Spectrometer CubeSat", *The Astrophysical Journal*, Vol. 835, No. 2, 2017.
<https://doi.org/10.3847/1538-4357/835/2/122>
22. Weibel¹, D., D. Lawrence and S.E. Palo, "Optical Beacon Sensor for Small Un-manned Aerial System State Estimation", *J. of Field Robotics*, Vol. 34, No. 3, pp477-494, 2017.
<http://dx.doi.org/10.1002/rob.21648>
23. Buck¹, S., S. Oerlemans, S.E. Palo, "Experimental Characterization of Turbulent Inflow Noise on a Full-scale Wind Turbine", *J. of Sound and Vibration*, Vol. 385, pp. 219-238, 2016.
<http://dx.doi.org/10.1016/j.jsv.2016.09.010>
24. Gerhardt¹, D., and S.E. Palo, "Volume Magnetization for System-Level Testing of Magnetic Materials within Small Satellites", *Acta Astronautica*, Vol. 127, pp. 1-12, 2016.
<http://dx.doi.org/10.1016/j.actaastro.2016.05.017>
25. Pilinski, M.D., R.L. McNally, B.A. Bowman, S.E. Palo, J.M. Forbes, B.L. Davis, R.G. Moore, K. Kemble, C. Koehler, and B. Sanders. "Comparative Analysis of Satellite Aerodynamics and Its Application to Space-Object Identification", *J. Spacecraft and Rockets*, Vol. 53, No. 5, pp. 876-886, 2016.
<http://dx.doi.org/10.2514/1.A33482>
26. Nguyen¹, V.A., S.E. Palo, R.S. Lieberman, J.M. Forbes and D.A. Ortland, "Generation of Secondary Waves Arising from Nonlinear Interactions between the Quasi Two-Day Wave and the Migrating Diurnal Tide", *J. Geophysical Research*, Vol. 121, No. 13, pp. 7762-7780, 2016.
<http://dx.doi.org/10.1002/2016JD024794>
27. Mason¹, J.P. T.N. Woods, A. Caspi, P.C. Chamberlin, C. Moore, A. Jones, R. Kohnert, X. Li, S. Palo, and S. C. Solomon. "Miniature X-Ray Solar Spectrometer: A Science-Oriented, University 3U CubeSat", *J. Spacecraft and Rockets*, Vol. 53, No. 2, pp. 328-339, 2016.
<http://dx.doi.org/10.2514/1.A33351>
28. de Boer, G., S. Palo, B. Argrow, G. LoDolce, J. Mack, R-S. Gao, H. Telg, C. Trussel, J. Fromm, C. N. Long, G. Bland, J. Maslanik, B. Schmid and T. Hock, "The Pilatus Unmanned Aircraft System for Lower Atmospheric Research", *Atmospheric Measurement Techniques*, Vol. 9, pp. 1845-1857, 2016.
<http://dx.doi.org/10.5194/amt-9-1845-2016>
29. Cassano, J.J, M.W. Seefeldt, S.E. Palo, S.L. Knuth, A. Bradley, P.D. Herman, P.A. Kernborne and N.J. Logan, "Observations of the Atmosphere and Surface State Over Terra Nova Bay, Antarctica Using Unmanned Aircraft Systems", *Earth Syst. Sci. Data*, Vol. 8, 115–126, 2016.
<http://dx.doi.org/10.5194/essd-8-115-2016>
30. Weibel¹, D., D. Lawrence and S.E. Palo, "Small Un-manned Aerial System Attitude Estimation for Flight in Wind", *J. of Guidance, Control, and Dynamics*, Vol. 38, No. 7, pp. 1300-1305., 2015.
<http://dx.doi.org/10.2514/1.G000888>
31. Bradley¹, A., S.E. Palo, D. Lawrence, G. LoDolce and D. Weibel, "Air Deployed Micro Buoy measurement of temperatures in the marginal ice zone upper ocean during MIZOPEX campaign", *J. of Ocean. and Atmos. Tech*, Vol. 32, pp. 1058-1070, 2015.
<http://dx.doi.org/10.1175/JTECH-D-14-00209.1>

32. Truskowski, A.O., J.M. Forbes, X. Zhang, S.E. Palo, “New perspectives on thermosphere tides: 1. Lower thermosphere spectra and seasonal-latitude structures”, *Earth, Planets and Space*, 66:136, doi:10.1186/s40623-014-0136-4, 2014.
33. Nguyen¹, V., and S.E. Palo, “Transmission of planetary wave effects to the upper atmosphere through eddy diffusion modulation”, *J. Atmos. Solar. Terr. Res.*, Volumes 117, Pages 1-6, ISSN 1364-6826, DOI: 10.1016/j.jastp.2014.04.008, 2014.
34. Gerhardt¹, D., S.E. Palo, X. Li, L. Blum, Q. Schiller and R. Kohnert, “The Colorado Student Space Weather Experiment (CSSWE) On-Orbit Performance”, *J. of Small Satellites*, Vol. 03, No. 01, pp. 265-281, 2014.
35. Li, X., S. Palo, R. Kohnert, D. Gerhardt, L. Blum, Q. Schiller, D. Turner, W. Tu, N. Sheiko, and C. S. Cooper, Colorado student space weather experiment: Differential flux measurements of energetic particles in a highly inclined low Earth orbit, in *Dynamics of the Earth’s Radiation Belts and Inner Magnetosphere*, Geophys. Monogr. Ser., vol. 199, edited by D. Summers, I. R. Mann, D. N. Baker, and M. Schulz, pp. 385–404, AGU, Washington, D. C., doi:10.1029/2012GM001313, 2013.
36. Nguyen¹, V., and S.E. Palo, “A technique for estimating the short term variability of the diurnal tide utilizing multiple satellites”, *J. Atmos. Solar. Terr. Res.*, Volumes 105–106, Pages 39-53, ISSN 1364-6826, <http://dx.doi.org/10.1016/j.jastp.2013.07.008>, 2013.
37. Li, X., Q. Schiller, L. Blum, S. Califf, H. Zhao, W. Tu, D. Turner, D. Gerhardt, S. Palo, R. Selesnick, S. Kanekal, D.N. Baker, J. Fennell, J.B. Blake, M. Looper, G. D. Reeves, and H. Spence, First Results from CSSWE CubeSat: Characteristics of Relativistic Electrons in the Near-Earth Environment During the October 2012 Magnetic Storms, *Journal of Geophysical Research*, 118, doi:10.1002/2013JA019342, 2013.
38. Li, X., S. Palo, R. Kohnert, L. Blum, D. Gerhardt, Q. Schiller, and S. Califf, “Small Mission Accomplished by Students – Big Impact on Space Weather Research”, *Space Weather*, 11, 55-56, doi:10.1002/swe.20025, 2013.
39. Pilinski¹, M., B.M. Argrow, S.E. Palo and B.R. Bowman, “A Semi-Empirical Satellite Accommodation Model for Spherical and Randomly Tumbling Objects”, *AIAA J. Spacecraft and Rockets*, V50, 556-571, doi:10.2514/1.A32348, 2013.
40. Chandran¹, A., Rusch, D. W., Thomas, G. E., Palo, S. E., Baumgarten, G., Jensen, E. J., and Merkel, A. W. Atmospheric gravity wave effects on polar mesospheric clouds: A comparison of numerical simulations from CARMA 2D with AIM observations. *Journal of Geophysical Research: Atmospheres* (1984–2012), 117(D20), 2012.
41. Shriver¹, P. M., Palo, S. E., Zenick, R. G., and Balas, M. J., “Reward-Lifetime Scheduling Approach to the Autonomous Spacecraft Power Management Problem”, *Journal of Aerospace Computing, Information, and Communication*, 9(2), 58-67, 2012.
42. Li, X., S. Palo, R. Kohnert, D. Gerhardt, L. Blum, Q. Schiller, D. Turner, W. Tu, N. Sheiko, and C. S. Cooper, Colorado Student Space Weather Experiment: Differential flux measurements of energetic particles in a highly inclined low Earth orbit, in *Dynamics of the Earth's Radiation Belts and Inner Magnetosphere*, Geophys. Monogr. Ser., vol. 199, edited by D. Summers et al., 385–404, AGU, Washington, D. C., doi:10.1029/2012GM001313, 2012.
43. Pilinski¹, M.D., Argrow, B. M., Palo, S.E., Moe, K., Sutton, E., Doornbos, E., & Marcos, F., Drag coefficients of satellites with concave geometries: Comparing models and observations. *Journal of Spacecraft and Rockets*, 48(2), 2012.

44. Crocker¹, R.I., J.A. Maslanik, J.J. Adler, S.E. Palo, U.C. Herzfeld, and W.J. Emery, "A Sensor Package for Ice Surface Characterization Using Small Unmanned Aircraft Systems", *IEEE Trans. Geosci. Remote Sens.*, 50, doi:10.1109/TGRS.2011.2167339, 2012.
45. Chang¹, L.C., W.E. Ward, S.E. Palo, J. Du, D.-Y. Wang, H.-L. Liu, M.E. Hagan, Y. Portnyagin, J. Oberheide, L.P. Goncharenko, T. Nakamura, P. Hoffmann, W. Singer, P. Batista, B. Clemesha, A.H. Manson, D.M. Riggan, C.-Y. She, T. Tsuda, T. Yuan, "Comparison of Diurnal Tide in Models and Ground-Based Observations during the 2005 Equinox CAWSES Tidal Campaign", *J. Atmos. Solar Terr. Phys.*, 78=79, doi:10.1016/j.jastp.2010.12.010, 2012.
46. Chang¹, L.C., J. Liu, and S.E. Palo, Propagating planetary wave coupling in SABER MLT temperatures and GPS TEC during the 2005/2006 austral summer, *J. Geophys. Res.*, 116, A10324, doi:10.1029/2011JA016687, 2011.
47. Suzuki, S., M. Tsutsumi, S.E. Palo, Y. Ebihara, M. Taguchi and M. Ejiri, "Mesospheric Gravity Waves over the South Pole", *J. Geophys. Res.*, doi:10.1029/2011JD015882, 2011.
48. Pilinski¹, M., K. Moe, S.E. Palo and B.M. Argrow, "Measuring absolute thermospheric densities and accommodation coefficients using paddlewheel satellites: Past findings, present uses and future mission concepts", *J. of Astronautical Sciences*, v58, n3, pp 531, 2011.
49. Chang¹, L.C., S. E. Palo and H.-L. Liu, "Short-term variability in the migrating diurnal tide caused by interactions with the quasi 2 day wave", *J. Geophys. Res.*, 116, D12112, doi:10.1029/2010JD014996, 2011.
50. Li, X., Palo, S. and Kohnert, R. "Small Space Weather Research Mission Designed Fully by Students", *Space Weather*, v9, S04006, doi:10.1029/2011SW000668, 2011.
51. Pilinski¹, M., B.M. Argrow, S.E. Palo, "A Semi-Empirical Model for Satellite Energy-Accommodation Coefficients", *AIAA J. Spacecraft Rockets*, v47, n6, doi:10.2514/1.49330, 2010.
52. Chang¹, L. C., S. E. Palo, H.-L. Liu, T.-W. Fang, and C. S. Lin, "Response of the thermosphere and ionosphere to an ultra fast Kelvin wave", *J. Geophys. Res.*, 115, A00G04, doi:10.1029/2010JA015453, 2010.
53. Iimura¹, H., D. C. Fritts, Q. Wu, W. R. Skinner, and S. E. Palo, "Nonmigrating semidiurnal tide over the Arctic determined from TIMED Doppler Interferometer wind observations", *J. Geophys. Res.*, 115, D06109, doi:10.1029/2009JD012733, 2010.
54. Chandran¹, A., D. W. Rusch, A. W. Merkel, S. E. Palo, G. E. Thomas, M. J. Taylor, S. M. Bailey, and J. M. Russell, "Polar mesospheric cloud structures observed from the cloud imaging and particle size experiment on the Aeronomy of Ice in the Mesosphere spacecraft: Atmospheric gravity waves as drivers for longitudinal variability in polar mesospheric cloud occurrence", *J. Geophys. Res.*, 115, D13102, doi:10.1029/2009JD013185, 2010.
55. Forbes, J.M. X. Zhang, S.E. Palo, J. Russell, C.J. Mertens and M. Mlynczak, "Kelvin waves in the stratosphere, mesosphere and lower thermosphere temperatures as observed by TIMED/SABER during 2002-2006", *Earth, Planets and Space*, 61, 447-453, 2009.
56. Chang¹, L.C., J.P. Thayer, J. Lei, and S.E. Palo, Isolation of the Global MLT Thermal Response to Recurrent Geomagnetic Activity, *Geophys. Res. Lett.*, 36, doi:10.1029/2009GL039305, 2009.
57. Merkel, A.W., D.W. Rusch, S.E. Palo, J.M. Russell III, and S.M. Bailey, Mesospheric Planetary Wave Effects on Global PMC Variability Inferred from AIM-CIPS and TIMED-SABER for the Northern Summer 2007 Season, *J. Atmos. and Solar Terr. Res.*, 71, doi:10.1016/j.jastp.2008.12.001, 2009.

58. Chandran¹, A., D.W. Rusch, S. E. Palo, G.E. Thomas, and M.J. Taylor, Gravity Wave Observations in the Summertime Polar Mesosphere for the Cloud Imaging and Particle Size (CIPS) Experiment on the AIM Spacecraft, *J. Atmos. and Solar Terr. Res.*, 71, doi:10.1016/j.jastp.2008.09.041, 2009.
59. Iimura¹, H., S. E. Palo, Q. Wu, T.L. Killeen, S.C. Solomon and W.R. Skinner, Structure of the nonmigrating semidiurnal tide above Antarctica observed from the TIMED Doppler Interferometer, *J. Geophys. Res.*, 114, D11102, doi:10.1029/2008JD010608, 2009.
60. Chang¹, L. C., S. E. Palo, and H. Liu, Short-term variation of the $s = 1$ nonmigrating semidiurnal tide during the 2002 stratospheric sudden warming, *J. Geophys. Res.*, 114, D03109, doi:10.1029/2008JD010886, 2009.
61. Huskey, A., Moriarty, P., van Dam, Simley, E., Palo, S. "An Overview of the Acoustical Activities at the National Renewable Energy Laboratory," *Journal of the Acoustical Society of America*, Volume 125, Issue 4, pp. 2624-2624, 2009.
62. Forbes, J.M. X. Zhang, S. Palo. J. Russell, C.J. Mertens and M. Mlynczak, "Tidal Variability in the Ionospheric Dynamo Region", *J. Geophys. Res.*, 113, A02310, doi:10.1029/2007JA01273, 2008.
63. Chang¹, L., S.E. Palo, M.E. Hagan, J. Richter, R. Garcia, D. Riggan, and D. Fritts, "Structure of the migrating diurnal tide in the whole atmosphere community climate model (WACCM)", *Adv. Space. Res.*, 41(9), 1398-1407, doi.10.1016/j.asr.2007.03.035, 2008.
64. Li, T., C-Y. She, S.E. Palo, Q. Wu, H. Liu and M.L. Salby "Coordinated lidar and TIMED observations of the quasi-two-day wave during August 2002-2004 and possible quasi-biennial oscillation influence", *Adv. Space. Res.*, 41(9), 1463-1471, doi:10.1016/j.asr.2007.03.052, 2008.
65. Lau, E.M., H. Iimura, S.E. Palo, S.K. Avery, J.P. Avery, C. Kang, and N.A. Makarov "An intercomparison of meteor radar measurements using two different processing systems", *Adv. Space. Res.*, 42(1), 155-163, doi.10.1016/j.asr.2007.03.019, 2008.
66. Kang¹, C., and S.E. Palo, "A Time-Frequency Method for Detecting Underdense VHF Meteor Signals", *Radio. Sci.*, 42, RS4015, doi:10.1029/2006RS003474, 2007.
67. Palo, S.E., J.M. Forbes, X. Zhang, J. Russell, C.J. Mertens, and M.G. Mlynczak, "An Eastward Propagating Two-Day Wave: Evidence for Nonlinear Planetary Wave and Tidal Coupling in the Mesosphere and Lower Thermosphere", *Geophys. Res. Lett.*, 34(7) 10.1029/2006GL027728, 2007.
68. Lau, E., S.K. Avery, J.P. Avery, S.E. Palo and N.A. Makarov, "Tidal analysis of meridional winds at the South Pole using a VHF interferometric meteor radar", *J. Geophys. Res.*, 111, D16108, doi:10.1029/2005JD006734, 2006.
69. Lau, E., S.K. Avery, J.P. Avery, D. Janches, S.E. Palo, R. Schafer and N.A. Makarov, "Statistical characterization of the meteor distribution at the South Pole using a VHF interferometric meteor radar", *Radio Sci.*, 41, RS4007, doi:10.1029/2005RS003247, 2006.
70. Zhang, X., J.M. Forbes, M.E. Hagan, J.M. Russell III, S.E. Palo, C.J. Mertens and M.G. Mlynczak, "Monthly tidal temperatures 20-120 km from TIMED/SABER", *J. Geophys. Res.*, 111, A10S08, doi:10.1029/2005JA011504, 2006.
71. Forbes, J.M., J. Russell, S. Miyahara, X. Zhang, S. Palo, M. Mlynczak, C.J. Mertens and M.E. Hagan, "Troposphere-Thermosphere tidal coupling as measured by the SABER instrument on TIMED during July-September, 2002", *J. Geophys. Res.*, 111, A10S06, doi:10.1029/2005JA011492, 2006.
72. Kozyra, J. U., G. Crowley, B. A. Emery, X. H. Fang, G. Maris, M. G. Mlynczak, R. J. Niciejewski, S. E. Palo, L. J. Paxton, C. E. Randall, P.-P. Rong, J. M. Russell III, W. Skinner, S. C. Solomon, E. R. Talaat, Q. Wu, J.-H. Yee, Response of the upper/middle atmosphere to coronal holes and powerful high-speed solar wind streams in 2003, in *Recurrent Magnetic Storms: Corotating Solar Wind*

Streams, edited by B. T. Tsurutani, R. L. McPherron, W. D. Gonzalez, G. Lu, J. H. A. Sobral, and N. Gopalswamy, Geophysical Monograph Series 167, American Geophysical Union, 10.1029/167GM24, p319-340, 2006.

73. Palo, S.E., J.M. Forbes, X. Zhang, J. Russell, C.J. Mertens, M.G. Mlynczak, G. Burns, P. Espy, and T.D. Kawahara, "Planetary wave coupling for the stratosphere to the thermosphere during the 2002 southern hemisphere pre-stratwarm period", *Geophys. Res. Lett.*, 32, L23809, doi:0.1029/2005GL024298, 2005.
74. Merzlyakov, E.G., Yu. I. Portnyagin, N.A. Makarov, J. Forbes, and S. Palo, "Eastward-Propagating Day-to-Day Wind Oscillations in the Northern Polar Mesosphere/Lower Thermosphere", *Izvestiya, Atmospheric and Oceanic Physics*, 41, 72-84, 2005.
75. Janches, D., S.E. Palo, E.M. Lau, S.K. Avery, J.P. Avery, S. de la Pena, and N.A. Makarov, "Diurnal and seasonal variability of meteoric flux measured over South Pole with meteor radars", *Geophys. Res. Lett.*, 31(20), L20807, 10.1029/2004GL021104, 2004.
76. Portnyagin, Yu.I., T. Solovjova, E. Merzlyakov, J. Forbes, S. Palo, D. Ortland, W. Hocking, et. al, "Mesosphere/lower thermosphere prevailing wind model", *Adv. Space, Res.*, 34(8), 1755-1762, doi:10.1016/j.asr.2003.04.058, 2004.
77. Merzlyakov, E., D. Pancheva, N. Mitchell, J.M. Forbes, Yu. I. Portnyagin, S. Palo, N. Makarov, and H.G. Muller, "High- and mid-latitude quasi-2-day waves observed simultaneously by four meteor radars during summer 2000", *Ann. Geophys.*, 22, 773-788, 2004.
78. Forbes, J.M., Yu. I. Portnyagin, W. Skinner, R.A. Vincent, T. Solovjova, E. Merzlyakov, T. Nakamura, and S. Palo, "Climatological lower thermosphere winds as seen by ground-based and space-based instruments", *Ann. Geophys.*, 22, 1931-1945, 2004.
79. Portnyagin, Yu.I., T.V. Solovjova, N.A. Makarov, E.G. Merzlyakov, A.H. Manson, C.E. Meek, W. Hocking, N. Mitchell, D. Pancheva, P. Hoffmann, W. Singer, Y. Murayama, K. Igarashi, J.M. Forbes, S. Palo, C. Hall, S. Nozawa, "Monthly mean climatology of the prevailing winds and tides in the Arctic mesosphere/lower thermosphere", *Ann. Geophys.*, 22, 3395-3410, 2004.
80. Merkel, A.W., G.E. Thomas, S.E. Palo and S.M. Bailey, "Observations of the 5-day planetary wave in PMC measurements for the Student Nitric Oxide Explorer satellite", *Geophys. Res. Lett.*, 30(4), 1196, doi:10.1029/2002GL016524, 2003.
81. Merzlyakov, E.G., Yu.I. Portnyagin, N.A. Makarov, J.M. Forbes, and S.E. Palo, "Some results of synchronous wind measurements by meteor radars in Obninsk and Dixon", *Izv. RAN, Ser. FAO*, 39, 1-10, 2003.
82. Azeem, S.M.I., S.E. Palo, D.L. Wu, and L. Froidevaux, "Observations of the 2-Day wave in UARS MLS temperature and ozone measurements", *Geophys. Res. Lett.*, 28, 3147-3150, 2001.
83. Merzlyakov, E.G. Yu.I. Portnyagin, N.A. Makarov, J.M. Forbes, and S.E. Palo, "Intradiurnal wind oscillations in the Antarctic lower thermosphere from meteor radar measurements at the Amundsen-Scott and Molodezhnaya stations", *Izvestiia – Russia Academy of Sciences Atmospheric and Oceans Physics*, 37, 40-50, 2001.
84. Forbes, J.M., M.J. Jarvis, S.E. Palo, X. Zhang, Yu.I. Portnyagin, and N.A. Makarov, "Electric field and meteor radar wind measurements near 95km over South Pole", *Advances in Upper Atmosphere Polar Research*, 15, 1-10, 2001.
85. Merzlyakov, E.G., Yu. I. Portnyagin, N.A. Makarov, J.M. Forbes, and S.E. Palo, "First results of meteor radar lower thermosphere wind measurements at Dixon, Arctic (73.5N, 80E)", *Advances in Polar Upper Atmosphere Research*, 15, 11-22, 2001.

86. Codrescu, M.V., K.L. Beirele, T.J. Fuller-Rowell, S.E. Palo and X. Zhang, "More total electron content climatology from TOPEX/Poseidon measurements", *Radio. Sci.*, 36, 325-334, 2001.
87. Forbes, J.M., S.E. Palo, and X. Zhang, "Variability of the ionosphere", *J. Atmos. Solar Terr. Phys.*, 62, 685-693, 2000.
88. Zhou, Q.H., H. Monroy, D.C. Fritts, H.M. Irkic, B. Isham, J.R. Isler, S.E. Palo, "Radar observations of longitudinal variability of tidal/planetary waves and mean motions in the tropical mesosphere", *J. Geophys. Res.*, 105, 2151-2162, 2000.
89. Merzlyakov, E.G., Yu. I. Portnyagin, N.A. Makarov, J.M. Forbes, and S.E. Palo, "Intradiurnal wind variations in the lower-thermosphere over the Antarctic for meteor radar measurements", *Izvestiya*, 35, 712, 1999.
90. Forbes, J.M., S.E. Palo, X. Zhang, Yu. I. Portnyagin, N.A. Makarov, and E.G. Merzlyakov, "Lamb waves in the lower thermosphere: Observational evidence and global consequences", *J. Geophys. Res.*, 104, 17,107-17,116, 1999.
91. Palo, S.E., R.G. Roble and M.E. Hagan, "Middle atmosphere effects of the quasi-two-day wave determined from a general circulation model", *Earth Planets Space*, 51, 629-647, 1999.
92. Forbes, J.M., Yu. I. Portnyagin, N.A. Makarov, S.E. Palo, E.G. Merzlyakov, and X. Zhang, "Dynamics of the lower thermosphere over South Pole from meteor radar wind measurements", *Earth Planets Space*, 51, 611-620, 1999.
93. Forbes, J.M., S.E. Palo and F.A. Marcos, "Longitudinal structures in lower thermospheric density", *J. Geophys. Res.*, 104, 4373-4386, 1999.
94. Palo, S.E., R.G. Roble and M.E. Hagan, "TIME-GCM results for the quasi-two-day wave", *Geophys. Res. Lett.*, 25, 3783-3786, 1998.
95. Portnyagin, Yu. I., J.M. Forbes, N.A. Makarov, E.G. Merzlyakov and S.E. Palo, "The summer-time 12-h wind oscillation with zonal wavenumber $s=1$ in the lower thermosphere over South Pole", *Ann. Geophys.*, 16, 828-837, 1998.
96. Palo, S.E., Yu. I. Portnyagin, J.M. Forbes, N.A. Makarov, and E.G. Merzlyakov, "Transient long-period eastward-propagating waves observed over South Pole", *Ann. Geophys.*, 16, 1486-1500, 1998.
97. Codrescu, M.V., S.E. Palo, T.J. Fuller-Rowell, X. Zhang and C. Poppe, "TEC Climatology from TOPEX/Poseidon Measurements", *J. Atmos. Solar Terr. Phys.*, 61, 281-298, 1998.
98. Palo, S.E., M.E. Hagan, C.E. Meek, R.A. Vincent, M.D. Burrage, C. McLandress, S.J. Franke, W.E. Ward, R.R. Clark, P. Hoffmann, R. Johnson, D. Kurschner, A.H. Manson, D. Murphy, T. Nakamura, Yu.I. Portnaygin, J.E. Salah, R. Schminder, W. Singer, T. Tsuda, T.S. Virdi, and Q. Zhou, "An intercomparison between the GSWM, UARS and ground based radar observations: A case study in January 1993", *Ann. Geophys.*, 15, 1123-1141, 1997.
99. Chang, J.L., S.K. Avery, A.C. Riddle, S.E. Palo, and K.S. Gage, "First results of tropospheric gravity wave momentum flux measurements over Christmas Island", *Radio Science*, 32, 727-748, 1997.
100. Deng, W., J.E. Salah, R.R. Clark, S.J. Franke, D.C. Fritts, P. Hoffmann, A.H. Manson, C.E. Meek, T. Nakamura, S.E. Palo, D.M. Rigglin, R.G. Roble, R. Schminder, T. Tsuda, R.A. Vincent, Q. Zhou, "Coordinated global radar observations of tidal and planetary waves in the mesosphere and lower thermosphere during 20-30 January 1993", *J. Geophys. Res.*, 102, 7307-7318, 1997.
101. Palo, S. E. and S. K. Avery, "Observations of the quasi-two-day wave in the middle and lower atmosphere over Christmas Island", *J. Geophys. Res.*, 101, 12,833-12,846, 1996.

102. Palo, S. E. and S.K. Avery, "Observations of the meridional quasi two-day wave in the mesosphere and lower thermosphere at Christmas Island", *The Upper Mesosphere and Lower Thermosphere: A Review of Experiment and Theory*, Geophys, Monogr. Ser., vol. 97, edited by R. M. Johnson and T. L. Killeen, pp. 101-110, 1995.
103. Clark, R.R., A.C. Current, A.H. Manson, C.E. Meek, S.K. Avery, S.E. Palo, and T.A. Aso, "Hemispheric properties of the 2-d wave from mesosphere-lower thermosphere radar observations", *J. Atmos. Terr. Phys.*, 56, 1279-1288, 1994.
104. Palo, S E. and S.K. Avery, "Mean winds and the semiannual oscillation in the mesosphere and lower thermosphere at Christmas Island", *J. Geophys. Res.*, 98, 20,385-20,400, 1993.
105. Avery. S. K., and S. E. Palo, "Mean winds and waves in the troposphere during ALOHA-90", *Geophys. Res. Lett.*, 18, 1317-1320, 1991.
106. Avery, S. K., J. P. Avery, T. A. Valentic, S. E. Palo, M. J. Leary, and R. L. Obert, "A new MEDAC system: Christmas Island mesospheric wind measurements", *Radio Sci.*, 25, 657-669, 1990.

PEER REVIEWED COMMITTEE REPORTS

1. Toward an Integrated Arctic Observing Network, Report of the National Research Council Committee on Designing an Arctic Observing Network, Polar Research Board, Division on Earth and Life Studies. Chair: W. B Lyons. Members: K. Alverson, D. Barber, J.G. Bellingham, T.V. Callaghan, L.W. Cooper, M. Edwards, S. Gearhard, M. McCammon, J. Morrison, S.E. Palo, A. Proshutinsky, L-O. Reiersen, V.E. Romanovsky, P. Schlosser, J. Stroeve, C. Tweedie and J. Walsh, 2006.

OTHER PEER REVIEWED PUBLICATIONS

1. Rogler, B., M. Swartwout, S. Palo, "Small Satellites Becoming the New Normal", *Aerospace America*, 2020.
2. Brackin, P., S. Howe, P. Rodgers, R.K. Stanfill, S. Beyerlein, J. Kanai, J. Vallino and S. Palo, "Guest Editorial: The 2016 Capstone Design Conference", *Int. J. of Eng. Ed.*, v33, n5, pp. 1388-1392, 2017.
3. Beyerlein, S., J. Goldberg, S. Howe, S. Palo, R. Rogge and R. K. Stanfill, "Guest Editorial: The 2014 Capstone Design Conference", *Int. J. of Eng. Ed.*, v31, n6, pp. 1726-1726, 2015.
4. Howe, S., J. Goldberg, S. Palo, and P. Rodgers, "Guest Editorial: The 2012 Capstone Design Conference", *Int. J. of Eng. Ed.*, v30, n1, pp. 2-5, 2014.
5. Howe, S., Goldberg, J., Palo, S., Terpenney, J., "Guest Editorial: The 2010 Capstone Design Conference", *Int. J. of Eng. Ed.*, v27, n6, pp. 1160-1162, 2011.

CONFERENCE PROCEEDINGS

1. Berry, R., P. Bustamante, D. Guo, T.W. Hazlett, M. Honig, W. Lohmeyer, I. Murtazashvili, S. Palo, M. Weiss, "Spectrum Rights in Outer Space: Interference Management for Mega-constellations", The Research Conference on Communications, Information and Internet Policy, Washington, DC, 2022.
2. Palo, S.E., Kingsbury, R.W., and J. C. Twichell, "COBALT: The Next Step in Low SWAP-C Optical Terminal Design", Proc. of the AIAA Small Satellite Conference, Logan, UT, 2022.
3. Li, X., R. Kohnert, S. Palo, R. Selesnick, L. Khoo, Q. Schiller, J. Cantilina and E. Bauch, "Two Generations of CubeSat Missions to Take on the Challenges of Measuring Relativistic Electrons in the Earth's Magnetosphere", Proc. of the AIAA Small Satellite Conference, Logan, UT, 2022.
4. Marshall, R. D. Malaspina, S. Palo, T. Dudok de Wit, S. Wankmueller, R. Reid, P. Vankawala, and J. Cannon, "The Canvas Mission: Quantifying the Very-Low-Frequency Radio Energy Input from the Ground into the Earth's Magnetosphere", Proc. of the AIAA Small Satellite Conference, Logan, UT, 2022.
5. Wallace¹, B.T., S.E. Palo, J. Sobtzak, "A University Deep Space CubeSat Mission: Lessons Learned from the University of Colorado Boulder Earth Escape Explorer (CU-E3)", Proc. of the AIAA Small Satellite Conference, Logan, UT, 2022.
6. Oh, B., C. Lisy, G-U Tran, W. Lohmeyer, M. Campola and S. Palo, "CubeSat Radiation Hardness Assurance Beyond Total Dose: Evaluating Single Event Effects", Proc. of the AIAA Small Satellite Conference, Logan, UT, 2022.
7. Kingsbury, R.W., J. C. Twichell, and S. E. Palo "Cobalt optical crosslink terminal", Proc. SPIE 11993, Free-Space Laser Communications XXXIV, 119930N, <https://doi.org/10.1117/12.2610501>, 2022.
8. Fitzpatrick¹, D.J., E. Bauch, R. Agarwal, S.E. Palo, "Maximizing Mission Utility within Operational Constraints for the SWARM-EX CubeSat Mission", Proc. of the AIAA SCITECH 2022 Forum, 2022.
9. Wallace¹, B.T., S.E. Palo, J. Sobtzak, "The University of Colorado Boulder Earth Escape Explorer CubeSat: Mission Overview and Status", Proc. of the AIAA SCITECH 2022 Forum, 2022.

10. Dahir¹, A., D. Kubitschek and S. Palo, "The First Solution to the Lost in Space Problem", Proc. of the AIAA Small Satellite Conference, Logan, UT, 2020.
11. Aboaf, A., E.S. Harrod, M. Zola, A. Parkash, S.E. Palo, R. Marshall, M.D. Pilinski, N. Rainville, A. Dahir, V. Nataraja, B. Schwarb, A. Gardell and L. Warshaw, "A Methodology for Successful University Graduate CubeSat Programs", Proc. of the AIAA Small Satellite Conference, Logan, UT, 2020.
12. Dahir¹, A., D. Kubitschek and S. Palo, "Recovering Time and State for Small Satellites in Deep Space", Proc. of the AIAA Small Satellite Conference, Logan, UT, 2019.
13. Van Buren¹, D., S. Palo and P. Axelrad, "Simulation of a High Stability Reference Clock for Small Satellites with Modeled GPS Timing Errors", Proc. of the AIAA Small Satellite Conference, Logan, UT, 2019.
14. Withee¹, S., G. Altman, W. Caruso, C. Gillard, J. Sobtzak and S. Palo, "Closing the Deep Space Communications Link with Commercial Assets", Proc. of the AIAA Small Satellite Conference, Logan, UT, 2019.
15. Van Buren¹, D., S.E. Palo and P.A. Axelrad, "High Stability Reference Clock for Small Satellites", Proceedings of the 50th Annual Precise Time and Time Interval Systems and Applications Meeting, 2019.
16. Buck¹, S., T. Oerlemans, and S. Palo, "Experimental Validation of a Wind Turbine Turbulent Inflow Noise Prediction Code", Proc. of the 22nd AIAA/CEAS Aeroacoustics Conference, Lyon, France, 2016.
17. Mason¹, J.P., T.N. Woods, G. Allison, M.L. Cirbo, S. Folley, A. Jones, R. Kohnert, X. Li, C. Moore, A. Caspi and S. Palo, "Miniature X-Ray Solar Spectrometer (MinXSS) A Science Oriented, University 3U CubeSat", Proc. of the AIAA Small Satellite Conference, Logan, UT, 2015.
18. Altunc, S., O. Kegege, S. Bundick, H. Shaw, S. Schaire, G. Bussey, G. Crum, J.C. Burke, S. Palo, D. O'Connor, "X-band CubeSat Communication System Demonstration", Proc. of the AIAA Small Satellite Conference, Logan, UT, 2015.
19. Palo, S.E., "High Rate Communications for CubeSats", Proc. of the IEEE International Microwave Symposium, Phoenix, AZ, 2015.
20. Palo, S.E., D. O'Connor, E. DeVito, R. Kohnert, G. Crum and S. Altunc, "Expanding CubeSat Capabilities with a Low Cost Transceiver", *Proc. of the AIAA Small Satellite Conference*, Logan, UT, 2014.
21. Schiller¹, Q., D. Gerhardt¹, L. Blum¹, X. Li and S.E Palo, "Design and Scientific Return of a Miniaturized Particle Telescope Onboard the Colorado Student Space Weather Experiment (CSSWE) CubeSat", *Proc. of the IEEE Aerospace Conference*, Big Sky, MT, 2014.
22. Palo, S.E., G. Stafford and A. Hoskins, "An Agile Multi-Use Nano Star Camera for Constellation Applications", *Proc. of the AIAA Small Satellite Conference*, Logan, UT, 2013.
23. Buck¹, S., S. Palo and P. Moriarty, "Application of Phased Array Techniques for Amplitude Modulation Mitigation", *Proc. of the 5th International Conference on Wind Turbine Noise*, Denver, CO, 2013.
24. Buck¹, S., S. Palo, P. Moriarty, J. Roadman, and M. Asheim, "Acoustic Array Design for Wind Turbine Noise Measurements", *Proc. of the 5th International Conference on Wind Turbine Noise*, Denver, CO, 2013.
25. Palo, S., X. Li, D. Gerhardt¹, D. Turner¹, R. Kohnert, V. Hoxie and S. Batiste, "Conducting Science with a CubeSat: The Colorado Student Space Weather Experiment", *Proc. of the AIAA Small Satellite Conference*, Logan, UT, 2010.

26. Gerhardt¹, D. and S.E Palo, "Passive Magnetic Attitude Control for CubeSat Spacecraft", *Proc. of the AIAA Small Satellite Conference*, Logan, UT, 2010. – Paper won 2nd place in the Frank J. Redd Student Scholarship (paper) competition.
27. Tanner, J. and S. Palo, "Project Based Learning at the Graduate Level", *Proc. of the 2010 Capstone Design Conference*, Boulder, CO, 2010.
28. Simley¹, E., P. Moriarty, and S. Palo, "Aeroacoustic Noise Measurements of a Wind Turbine with BSDS Blades using an Acoustic Array," *48th AIAA Aero. Sci. Mtg.*, 2010.
29. Pilinski¹, M. and S.E. Palo, "An Innovative Method for Measuring Drag on Small Satellites", *Proc. of the AIAA Small Satellite Conference*, Logan, UT, 2009. – Paper won 1st place in the Frank J. Redd Student Scholarship (paper) competition.
30. Davis¹, B. and S.E. Palo, "The Design and Development of a Separation System for a Low-Cost Spherical Nanosatellite", *Proc. of the AIAA Small Satellite Conference*, Logan, UT, 2009. – Paper won 2nd place in the Frank J. Redd Student Scholarship (paper) competition.
31. Williams¹, A.D. and S.E. Palo, "Forced Air Convection Thermal Switch Concept for Responsive Space Missions", *Proc. of the AIAA Small Satellite Conference*, Logan, UT, 2006.
32. Mackison, D., J. Fulton, and S. Palo, "LQ Attitude Control-Frequency Shaped, Modal Weighting, LTR, GCC and Order Reduction", *Proc. of the AIAA Astrodynamics Specialists Conference*, Keystone, CO, 2006.
33. Williams¹, A.D. and S.E. Palo, "Forced Air Convection Thermal Switch Concept for Responsive Space Missions", *Proc. of the 9th International Energy Conversion Engineering Conference*, San Diego, CA, 2006.
34. Williams¹, A.D. and S.E. Palo, "Modeling and Analysis of a Robust Thermal Control System Based on Forced Convection Thermal Switches", *Proc. of the SPIE Defense and Security Symposium*, Kissimmee, FL, 2006.
35. Williams¹, A.D. and S.E. Palo, "A Comparison of Thermal Management Design Using Thermal Switches to Traditional Design Approaches with Application to Responsive Space Missions", *Proc. of the 4th International Energy Conversion Engineering Conference*, San Diego, CA, 2006.
36. Williams¹, A.D. and S.E. Palo, "Issues and Implications of the Thermal Control System on Responsive Space Missions", *Proc. of the AIAA Small Satellite Conference*, Logan, UT, 2006.
37. Fulton¹, J., S. Palo and D. Mackison "Modified Hybrid Coordinate Approach for Small Flexible Spacecraft with Gravity Gradient Stabilization", *Proc. of the AIAA Small Satellite Conference*, Logan, UT, 2006.
38. Williams¹, A.D. and S.E. Palo, "Issues and Implications of the Thermal Control System on the Six Day Spacecraft", *Proc. of the 4th Responsive Space Conference*, Los Angeles, CA, AIAA-RS4-2006-6001, 2006.
39. Pisano¹, W.J., D.A. Lawrence, and S.E. Palo, "Low-Cost UAV Avionics for Autonomous Antenna Calibration", *Proc. of the AIAA Unmanned Unlimited Conference*, 2005.
40. Shriver¹, P., "Opening the Door to Smart Power Management in Small Satellites", *Proc. of the AIAA Small Satellite Conference*, Logan, UT, 2003. – Paper won 3rd place in the Frank J. Redd Student Scholarship (paper) competition.
41. Axelrad, P., D.M. Akos, K.M. Larson, G.H. Born, R.S. Nerem, and S. Palo, "GPS Research and Education at the University of Colorado, Boulder", *Proc. of the Institute of Navigation 60th Annual Meeting*, Dayton, OH, 2004.

42. Eheim¹, C., C. Dixon, B.A. Argrow, and S. Palo, "TornadoChaser: A Remotely-Piloted UAV for Insitu Meteorological Measurements", *Proc. of the 1st AIAA Conference on Unmanned Aerospace Vehicles*, 2002.
43. Palo, S.E., J.L. Chang, S.K. Avery, A.C. Riddle, and K.S. Gage, "Detection of outliers in stratospheric/tropospheric wind velocity estimates", *Proc. of the Seventh Workshop on Technical and Scientific Aspects of MST Radar*, Hilton Head, SC, 237-240, 1996.
44. Chang, J.L., S.K. Avery, A.C. Riddle, S.E. Palo, J.R. McAfee, and K.S. Gage, "Preliminary observations of tropospheric gravity wave momentum fluxes measured with the Christmas Island ST radar", *Proc. of the Seventh Workshop on Technical and Scientific Aspects of MST Radar*, Hilton Head, SC, 50-53, 1996.
45. Palo, S.E., and S.K. Avery, "Analysis of nonstationary time series using the Wigner-Ville distribution", *Proc. of the Fifth Workshop on Technical and Scientific Aspects of MST Radar*, Aberystwyth, UK, University College of Wales, 464-469, 1992.

TECHNICAL REPORTS

1. de Boer, G., B. Argrow, G. Bland, J. Elston, D. Lawrence, J. Maslanik, S. Palo, and M. Tschudi, "Evaluation of Routine Atmospheric Sounding Measurements using Unmanned Systems (ERASMUS) Science Plan", DOE Office of Science Atmospheric Radiation Measurement (ARM) Program DOE/SC-ARM-15-048, 2015.
2. Buck, S., J. Roadman, P. Moriarty and S. Palo, "Acoustic Array Development for Wind Turbine Noise Characterization", NREL/TP-5000-60457, 2013.

PAPERS IN REVISION, REVIEW AND PREPARATION

1. Dahir¹, A., E. Reidel, W. Owens, D. Kubitschek and S.E. Palo, "Recovering Time in Deep Space Using Planetary Bodies I", submitted to *Acta Astronautica*.
2. Dahir¹, A., E. Reidel, W. Owens, D. Kubitschek and S.E. Palo, "Recovering Time in Deep Space Using Planetary Bodies II", submitted to *Acta Astronautica*.
3. Dhakal, P. S. Prohira, C.V. Cappiello, J.F. Beacom, S. Palo and J. Marino, "New Constraints on Macroscopic Dark Matter Using Radar Meteor Detectors", under review.
4. Volz, R., P.J. Erickson, S.E. Palo, J.L. Chau, J. Vierinen, T.Y. Chen, "A Global Radio Remote Sensing Network for Observing Space Weather Dynamics", under review.
5. Jiang, J., K. Johnson, Q. Yue, K.A. Fahey, S.E. Palo, "ENTICE Satellite Orbital Simulator to Study Ice Clouds", submitted to Authorea. DOI: 10.1002/essoar.10508906.1
6. Wang¹, J.C., S.E. Palo, and H.L. Liu, "Modelling study of the driving mechanisms of the day-to-day variability of Migrating Diurnal Tide", in preparation for submission to *J. Geophys Res.*
7. Gerhardt¹, D., and S.E. Palo, "Passive Magnetic Attitude Control Settling Prediction with On-Orbit Verification using the Colorado Student Space Weather Experiment CubeSat", in preparation for submission to *Acta Astronautica*.
8. Rainville, N., J. Marino, S. Palo, R. Volz, "Multistatic Radar Development for the Colorado Zephyr Meteor Radar Network" submitted to Radio Science Letters.

SCOTT E. PALO RESEARCH FUNDING

SPONSORED PROJECTS

| AGENCY | TITLE | START DATE | END DATE | PI, Co-PI, Co-I | TOTAL |
|-------------------|--|------------|----------|-----------------|-------------|
| NSF/ NSWP | A study of large-scale ionospheric structure using the TOPEX/Poseidon TEC measurements | SEP-96 | AUG-99 | Co-PI | \$70,520 |
| NSF/ CEDAR | Investigation of the quasi-two-day wave using a general circulation model | JAN-97 | DEC-00 | PI | \$139,497 |
| CoRA ¹ | MF radar collaborative studies | APR-97 | MAR-00 | PI | \$40,137 |
| NASA/ MTPE | Chemical and dynamical variability in the middle atmosphere | JAN-98 | DEC-00 | Co-I | \$306,846 |
| AFOSR | A low-cost, remotely-deployable, meteor radar system for mesosphere/ionosphere coupling studies | JAN-98 | NOV-00 | PI | \$108,464 |
| NASA/ GSFC | Educational Outreach | MAR-98 | FEB-02 | PI | \$14,739 |
| NASA/ OSS | Extraction of planetary waves from satellite observations | APR-98 | FEB-02 | PI | \$129,563 |
| NASA/ OSS | Tides, planetary wave and eddy forcing of the mean MLT circulation for the TIMED science working group | APR-98 | AUG-01 | Co-I | \$305,260 |
| NSF/ CEDAR | An intensive co-located intercomparison of radar and optical wind and temperature measurements in the mesopause region | JAN-99 | DEC-00 | PI | \$31,390 |
| NSF/ Aeronomy | Dynamics of the Antarctic MLT region using ground-based radar and TIMED instruments | JAN-00 | DEC-01 | Co-PI | \$285,668 |
| NSF/ Aeronomy | Coordinated analysis of the zonal mean circulation and semidiurnal tide in the mesosphere and lower-thermosphere using ground-based radar and TIMED observations | FEB-00 | JAN-02 | PI | \$59,712 |
| NSF/OPP | Long-term wind and temperature measurements in the Arctic mesosphere and lower thermosphere | FEB-00 | JAN-05 | PI | \$691,021 |
| AFOSR | A remotely-deployable system for measuring low-latitude atmosphere-ionosphere disturbances | APR-01 | MAR-02 | PI | \$184,950 |
| AeroAstro | Autonomous satellite power scheduling (Phase 1 – NASA/STTR) | JAN-03 | JAN-04 | PI | \$16,416 |
| NASA/ OSS | Tides, planetary wave and eddy forcing of the mean MLT circulation for the TIMED science working group | JAN-03 | DEC-06 | Co-I | \$1,407,000 |
| NSF/ CEDAR | Planetary wave induced tidal variability | JAN-03 | DEC-06 | PI | \$217,998 |

| AGENCY | TITLE | START DATE | END DATE | PI, CO-PI | TOTAL |
|-------------------|---|------------|----------|-----------|-------------|
| NSF/ Aeronomy | High latitude dynamical studies using radar and satellite observations | SEP-03 | AUG-06 | PI | \$306,377 |
| AeroAstro | Autonomous spacecraft power scheduling (Phase 2 - NASA/STTR) | MAY-04 | MAY-06 | PI | \$21,030 |
| NSF/ Aeronomy | CAREER: Development of a distributed multistatic meteor radar system | JAN-05 | DEC-11 | PI | \$497,395 |
| NASA | Global structure and modeling of the non-migrating tides using TIMED, GPS and ground-based measurements | JAN-05 | DEC-07 | PI | \$276,401 |
| CoRA ¹ | Micro meteors and their interaction with the atmosphere: A comprehensive study using the Arecibo and Jicamarca observations | AUG-05 | OCT-06 | PI | \$59,288 |
| NSF/ANS | Ice freeboard, roughness and topography for UAV laser profilometry, satellite and surface observations: relationships to ice dynamical and thermodynamical properties | AUG-05 | JUL-08 | Co-PI | \$735,224 |
| NASA | MESA global voyagers | OCT-05 | SEP-07 | PI | \$44,995 |
| CoRA ¹ | Interhemispheric analysis of polar MLT radar observations | JAN-06 | DEC-07 | PI | \$46,495 |
| NSF/OPP | Collaborative studies of the Antarctic mesosphere and lower-thermosphere | SEP-06 | AUG-11 | PI | \$1,431,245 |
| AFRL | Drag and neutral density explorer | JAN-07 | JAN-09 | Co-PI | \$110,000 |
| NASA | Application of high-rate GPS occultation data to enhance understanding of turbulence in the upper troposphere, stratosphere and ionosphere | JAN-08 | DEC-10 | Co-PI | \$545,000 |
| NSF/ CEDAR | CEDAR: Nonlinear Wave-Wave Induced Diurnal Tidal Variability | JAN-09 | DEC-13 | PI | \$262,500 |
| AFRL | Drag and neutral density explorer | JAN-09 | JAN-13 | Co-PI | \$110,000 |
| NSF | CubeSat: Colorado Student Space Weather Experiment | JAN-10 | DEC-13 | Co-PI | \$834,946 |
| GTRI | Defeating Technology Surprise: Design & Build of Autonomous Cyber Exploiting Cubesats | JUL-10 | Nov-12 | PI | \$133,496 |
| NSF | Collaborative Research: Ocean-Ice-Atmosphere Interactions in the Terra Nova Bay Polynya, Antarctica | AUG-11 | JUL-14 | Co-PI | \$1,053,986 |
| NREL | Acoustic Array Development for Wind Turbine Testing | AUG-11 | SEP-13 | PI | \$226,153 |

| AGENCY | TITLE | START DATE | END DATE | PI, CO-PI | TOTAL |
|---------------------|---|------------|----------|-----------|-------------|
| NASA | Marginal Ice Zone Observations and Processes Experiment (MIZOPEX) | OCT-11 | SEP-14 | Co-PI | \$3,002,820 |
| NASA | High Rate Cubesat X-band/S-band Communication System | OCT-13 | SEP-15 | PI | \$219,513 |
| GATS | Data Analysis Support | FEB-14 | AUG-14 | PI | \$65,974 |
| NSF | Collaborative Research: CubeSat Constellation for QB50 Mission | MAY-14 | APR-18 | PI | \$186,250 |
| NASA | Thermodynamics and Heat Storage in the Marginal Ice Zone Oceanic Mixed Layer | AUG-14 | JUL-17 | PI | \$72,000 |
| NASA | Miniature X-Ray Solar Spectrometer (MinXSS) Cubesat Mission | JUL-14 | JUL-17 | Co-PI | \$957,821 |
| DOE | Evaluation of Routine Atmospheric Scientific Measurements using Unmanned Systems | JUL-14 | JUL-16 | Co-PI | \$206,296 |
| NASA | Real-Time Volcanic Ash Detection Using a GPS Array Concept | APR-14 | MAR-17 | Co-PI | \$596,311 |
| NSF | CNIC: US-Germany workshop on catalyzing development of a multistatic meteor radar for lower thermospheric and mesospheric wind fields | AUG-15 | JUL-16 | PI | \$64,765 |
| JPL | Design of a CubeSat Communication System for Constellation Science | OCT-15 | SEP-16 | PI | \$52,394 |
| JPL | Non-linearly interacting waves in Earth's upper atmosphere as discerned in the JPL "MUSTARD" observation record | OCT-15 | SEP-17 | PI | \$39,028 |
| DARPA | UAV deployed microbuoys for Arctic Sensing | SEP-15 | MAR-17 | PI | \$463,899 |
| NSF | CEDAR: Understanding Day-to-Day Tidal Variability | Apr-16 | Mar-19 | PI | \$381,663 |
| NSF | Lower thermospheric science using a new meteor radar at McMurdo | Oct-16 | Sep-21 | PI | \$1,012,212 |
| ARFL | MAXWELL: A CubeSat for High Rate Communications – Phase A | Jan-16 | Dec-17 | PI | \$109,991 |
| AIA | Remote Sensing Tools, Applications, and Processing (TAP) Room Advanced Industry Accelerator (AIA) Infrastructure | Jul-16 | Jun-19 | PI | \$1,467,838 |
| The Aerospace Corp. | Deep Space Navigation Graduate Project | Sep-16 | May-18 | PI | \$50,000 |
| NOAA | Advancement and Deployment of Air-Deployable Micro Buoys (ADMBs) for Oceanic Research | Jul-17 | Dec-18 | Co-I | \$429,513 |

1 – CoRA is Colorado Research Associates a Division of Northwest Research Associates

| AGENCY | TITLE | START DATE | END DATE | PI, CO-PI | TOTAL |
|-------------------|--|------------|----------|-----------|--------------|
| GXM | MD5 support | Oct-17 | Sep-18 | PI | \$355,238 |
| JPL | Time Out – Recovering Time & State for Autonomous Navigation Systems in Deep Space | Oct-18 | Sept-19 | PI | \$53,264 |
| ARFL | MAXWELL: A CubeSat for High Rate Communications – Phase B | Jun-18 | May-20 | PI | \$548,857 |
| NASA | Solar Cycle Studies for the Miniature X-ray Solar Spectrometer (MinXSS) CubeSat Missions | Apr-18 | Apr-22 | Co-PI | \$2,242,633 |
| NASA | CubeSat: Inner Radiation Belt Experiment (CIRBE) | Aug-18 | Aug-22 | Co-PI | \$3,963,589 |
| NASA | SolarCube: An Imaging Spectro-Polarimeter CubeSat Mission for the Chromosphere and Transition Region: Phase A study | Jan-19 | Aug-19 | Co-I | \$37,753 |
| NSF | CubeSat: Climatology of Anthropogenic and Natural VLF wave Activity in Space (CANVAS) | Feb-19 | Jan-23 | Co-PI | \$1,196,654 |
| Air Force | ON DEMAND PNT (OD-PNT) | Feb-20 | Jun-24 | Co-I | \$3,426,599 |
| NSF | Collaborative Research: DASI Track 1: Development of a Distributed MIMO Meteor Radar Network for Space Weather Research | Jan-20 | Dec-23 | PI | \$1,231,988 |
| NSF | CubeSat Ideas Lab: Collaborative Research: Space Weather Atmospheric Reconfigurable Multiscale Experiment (SWARM-EX) CubeSats | Jan-20 | Dec-23 | PI | \$2,470,673 |
| NASA | A Small Satellite Lunar Communications and Navigation System | Jul-20 | Jun-22 | PI | \$399,911 |
| NSF | SII Planning: Creating a Visionary, Interdisciplinary, and Transformational National Center for Spectrum and Wireless Systems Research | Aug-20 | Jul-21 | PI | \$299,942 |
| State of Colorado | Hybrid Small Satellite Communications | Aug-20 | Jul-21 | PI | \$125,000 |
| NSF | SpectrumX: A National Center for Spectrum Innovation | Aug-20 | Jul-21 | Co-I | \$25,000,000 |
| NASA | CubIXSS | Aug-20 | Jul-21 | Co-I | \$50,000 |
| Air Force | RALPHIE CubeSat | Jan-21 | Feb-23 | PI | \$219,998 |

SUPPORTED RESEARCH STAFF

| NAME | POSITION | DATES | TOPIC |
|---------------------|-------------------|--------------|-----------------------------------|
| Dr. Irfan Azeem | Post-Doc | 2000-2002 | Analysis of UARS measurements |
| Dr. Elias Lau | Research Assoc. | 2007-2009 | Meteor Radar Support |
| Mr. Gabriel LoDolce | Prof. Res. Assoc. | 2012-2016 | MIZOPEX and meteor radar analysis |
| Dr. Ryan Kingsbury | Research Assoc. | 2020-present | CubeSat instrument and hardware |

RESEARCH SUMMARY

Number of Projects: 67 Total: 44 as P3 and 21 as Co-PI or Co-I

Total Research Funding: \$61,562,414

Total Research Funding as PI: \$23,357,226

SCOTT E. PALO

SUPERVISED DOCTORAL DISSERTATIONS

DOCTORAL DISSERTATIONS

1. Shriver, P., "Development and Analysis of a Resource-Aware Power Management System as Applied to Small Spacecraft", University of Colorado (AES), December 2005.
2. Fulton, J., "LQG/LTR Optimal Attitude Control of Small Flexible Spacecraft Using Free-Free Boundary Conditions", University of Colorado (AES), August 2006.
3. Kang, C., "Meteor Radar Signal Processing and Error Analysis", University of Colorado (AES), August 2008.
4. Iimura, H., "Dynamics of the Nonmigrating Semidiurnal Tide in the Mesosphere and Lower Thermosphere over the Antarctic and Arctic", University of Colorado (AES), December 2008.
5. Chandran, A., "Gravity Wave Effects on the Occurrence and Brightness of Polar Mesospheric Clouds", University of Colorado (AES), May 2010.
6. Chang, L., "Nonlinear Interaction of Atmospheric Tides and Planetary Waves in the Mesosphere and Lower Thermosphere", (AES), December 2010.
7. Pilinski, M., "Dynamic Gas-Surface Interaction Modeling for Satellite Aerodynamic Computations", (AES), December 2011. (Jointly advised with Professor Brian Argrow).
8. Gerhardt, D., "Passive Magnetic Attitude Control for Cubesats", University of Colorado (AES), May 2014.
9. Weibel, D., "Improving the accuracy of in-situ lower ABL wind measurements using sUAS", University of Colorado (AES), August 2015. (Jointly advised with Professor Dale Lawrence)
10. Vaudrin, C., "New Observational and Modeling Techniques for Multistatic Specular Meteor Radar", University of Colorado (AES), May 2016.
11. Nguyen, V., "Global –Scale, Nonlinearly-Generated Waves in the Space-Atmosphere Interaction Region", University of Colorado (AES), Dec 2016.
12. Bradley, A., "Ice Formation in the Arctic Ocean: Observed Processes and Climate Feedbacks", University of Colorado (AES), Dec 2016.
13. Buck, S., "An Investigation into Wind Turbine Acoustic Noise Variability" (AES), May 2017.
14. Loucks, D., "Impact of High-Latitude Ionospheric E Region Enhancements on Global Positioning System Scintillations in the Alaskan Sector" (AES), May 2017.
15. Rainville, N., "Development of a Real Time Volcanic Ash Plume Receiver Network", University of Colorado (AES), Aug 2019. (Jointly advised with Professor Kristine Larson)
16. Dahir, A., "Lost in Space: Autonomous Deep Space Navigation", University of Colorado (AES), May 2020.
17. VanBuren, D., "Techniques for Precise Timing Onboard Small Satellites", University of Colorado (AES), December 2020. (Jointly advised with Professor Penny Axelrad)
18. Wang, J., "Variability of the Migrating Diurnal Tide", University of Colorado (AES), December 2021.
19. Schwab, B., working on space weather using cubesats, PhD August 2022. (Jointly advised with Dr. Tom Woods).

SCOTT E. PALO
SUPERVISED DOCTORAL DISSERTATIONS

CURRENT PHD STUDENTS

1. Nell, N., working on NASA sounding rocket and CUTE Cubesat, PhD expected 2022. (Jointly advised with Professor Kevin France)
2. Marino, J., working on meteor radar, PhD expected 2023.
3. Wallace, B., working on CU-E3 cubesat, PhD expected 2023.
4. Fitzpatrick, D., working on SWARM-EX cubesat, PhD expected 2025.
5. Monaco, J., working on meteor radar, PhD expected 2026.
6. Zheng, M. working on SWARM-EX cubesat, PhD expected 2027.
7. Cuddeback, A.J., working on spectrum sensing, PhD expected 2027.

SCOTT E. PALO

SUPERVISED MASTERS THESES

MASTERS THESES

1. Fernandez, A., "Engineering the Digital System for the Student Dust Counter", University of Colorado (ECE), 2004.
2. Williams, A., "Robust Satellite Thermal Control Using Forced Air Convection Thermal Switches for Operationally Responsive Space Missions", University of Colorado (AES), 2005.
3. Pisano, W., "Computationally Efficient Control Methods and Hardware for Autonomous Antenna Calibration", University of Colorado (AES), 2006.
4. Chang, L., "Analysis of the Migrating Diurnal Tide in the Whole Atmosphere Community Climate Model", University of Colorado (AES), 2006.
5. Rochester, L., "An FPGA Based Digital Radar for Meteor Radar Applications", University of Colorado (ECE), 2007.
6. Smith, L., "System Model of a UAV and Sensor Package for the Measurement of Sea Ice Freeboard, Roughness and Topography", University of Colorado (AES), 2007.
7. Johnson, K., "A Numerical Model for VHF Meteor Radar Systems", University of Colorado (AES), 2008.
8. Loucks, D., "The Communications and Systems Engineering for the Drag and Neutral Density Experiment", University of Colorado (AES), 2008.
9. Edwards, M., "Comprehensive Error Analysis and Integration of an Airborne Laser Profiling System for Arctic Sea Ice Freeboard Measurements", University of Colorado (AES), 2008.
10. Pilinski, M., "A Miniaturized Mass Spectrometer for Small Satellites", University of Colorado (AES), 2008.
11. Zainuddin, M., "COBRA Meteor Radar Antenna Designs", University of Colorado (ECE), 2009.
12. Simley, E., "Development of an Acoustic Array for Wind Turbine Aeroacoustic Noise Analysis", University of Colorado (ECE), 2010.
13. Dhakal, T., "Development of Dropsonde System for Antarctic Atmospheric Profiling", University of Colorado (AES), 2010.
14. Nguyen, V., "Estimating the Short Term Variability of the Migrating Diurnal Tide through Satellite Observations", University of Colorado (AES), 2011.
15. Estante, F., "Correlation Between the Non-migrating Semidiurnal Tide Observed at South Pole and Stationary Planetary Waves in the Northern Hemisphere", University of Colorado (AES), 2012.
16. Kemble, K., "Development of a Miniature Instrument for Measuring Velocity, Temperature and Composition in the Ionosphere and Thermosphere", University of Colorado (AES), 2013.
17. Truesdale, N., "Modular and Reusable Power System Design for the BRRISON Balloon Telescope", University of Colorado (AES), 2013.
18. Warshaw, L., "Design and Analysis of the Power System and Core Avionics for a Novel 6U CubeSat", University of Colorado (ECE), 2020.

SCOTT E. PALO TEACHING

COURSES TAUGHT

| SEMESTER | COURSE |
|-------------|---|
| Spring 1999 | ASEN 3300, Aerospace Electronics and Communications |
| Fall 1999 | ASEN 4018, Senior Projects I: Design Synthesis – Project Advisor |
| Spring 2000 | ASEN 3300, Aerospace Electronics and Communications ASEN 4028, Senior Projects II: Design Practicum – Project Advisor |
| Spring 2001 | ASEN 3300, Aerospace Electronics and Communications ASEN 4028, Senior Projects II: Design Practicum – Project Advisor |
| Fall 2001 | ASEN 4519/5519, Real-Time Data Acquisition ASEN 4018, Senior Projects I: Design Synthesis – Project Advisor |
| Spring 2002 | ASEN 3300, Aerospace Electronics and Communications ASEN 4028, Senior Projects II: Design Practicum – Project Advisor |
| Fall 2002 | ASEN 5254, Radar and Remote Sensing ASEN 4018, Senior Projects I: Design Synthesis – Project Advisor |
| Spring 2003 | ASEN 4028, Senior Projects II: Design Practicum – Project Advisor |
| Fall 2003 | ASEN 4519/5519, Real-Time Data Acquisition ASEN 4018, Senior Projects I: Design Synthesis – Project Advisor |
| Spring 2004 | ASEN 4028, Senior Projects II: Design Practicum – Project Advisor |
| Fall 2004 | ASEN 4519/5519, Microcontroller Fundamentals with Aerospace Applications ASEN 4018, Senior Projects I: Design Synthesis – Project Advisor |
| Spring 2005 | ASEN 4028, Senior Projects II: Design Practicum – Project Advisor |
| Fall 2005 | ASEN 4018, Senior Projects I: Design Synthesis - Course co-coordinator ASEN 4519/5519, Microcontroller Fundamentals with Aerospace Applications |
| Spring 2006 | ASEN 4028, Senior Projects II: Design Practicum - Course co-coordinator ASEN 4519, Introduction to Senior Projects ASEN 6210, Remote Sensing Seminar |
| Fall 2006 | ASEN 4018, Senior Projects I: Design Synthesis - Course coordinator ASEN 4519/5519, Microcontroller Fundamentals with Aerospace Applications |
| Spring 2007 | ASEN 4028, Senior Projects II: Design Practicum - Course coordinator ASEN 4519, Introduction to Senior Projects ASEN 5519, Space Hardware Design I – LAMA project |
| Fall 2007 | ASEN 4018, Senior Projects I: Design Synthesis - Course coordinator ASEN 6519, Space Hardware Design II – LAMA project |

COURSES TAUGHT

| SEMESTER | COURSE |
|-------------|--|
| Spring 2008 | ASEN 4028, Senior Projects II: Design Practicum - Course coordinator ASEN 5519, Space Hardware Design I – REPTile/FLIE project |
| Fall 2008 | ASEN 4519/5519, Microcontroller Fundamentals with Aerospace Applications ASEN 6519, Space Hardware Design II – REPTile/FLIE project |
| Fall 2009 | Sabbatical |
| Spring 2010 | Sabbatical |
| Fall 2010 | ASEN 4018, Senior Projects I: Design Synthesis – Project Advisor ASEN 5018, Space Hardware Design I – CSSWE cubesat project |
| Spring 2011 | ASEN 4028, Senior Projects II: Design Practicum – Project Advisor ASEN 5254, Radar and Remote Sensing ASEN 5018/6028, Graduate Projects – CSSWE cubesat project |
| Fall 2011 | ASEN 4519/5519, Microavionics ASEN 4018, Senior Projects I: Design Synthesis – Project Advisor ASEN 5519/6519 – Astrodynamics Seminar ASEN 5018/6028, Graduate Projects – CSSWE cubesat project |
| Spring 2012 | ASEN 4028, Senior Projects II: Design Practicum – Project Advisor ASEN 5018, Graduate Projects – MinXSS cubesat project |
| Fall 2012 | ASEN 4519/5519, Microavionics ASEN 4018, Senior Projects I: Design Synthesis – Project Advisor ASEN 5018/6028, Graduate Projects – MinXSS cubesat project |
| Spring 2013 | ASEN 4028, Senior Projects II: Design Practicum – Project Advisor ASEN 5018/6028, Graduate Projects – MinXSS cubesat project |
| Fall 2013 | ASEN 4018, Senior Projects I: Design Synthesis – Project Advisor ASEN 5018/6028, Graduate Projects – MinXSS cubesat project ASEN 5018, Graduate Projects – CUSP project |
| Spring 2014 | ASEN 4028, Senior Projects II: Design Practicum – Project Advisor ASEN 5018, Graduate Projects – QB50 cubesat project ASEN 6028, Graduate Projects – CUSP project |
| Fall 2014 | ASEN 5018/6028, Graduate Projects – QB50 cubesat project |
| Spring 2015 | ASEN 5018/6028, Graduate Projects – QB50 cubesat project |
| Fall 2015 | ASEN 5018/6028, Graduate Projects – QB50 cubesat project ASEN 5018/6028, Graduate Projects – CubeQuest cubesat project |

COURSES TAUGHT

| SEMESTER | COURSE |
|-------------|--|
| Spring 2016 | ASEN 5018/6028, Graduate Projects – QB50 cubesat project ASEN 5018/6028, Graduate Projects – CubeQuest cubesat project ASEN 5018/6028, Graduate Projects – MAXWELL cubesat project ASEN 5254, Radar and Remote Sensing |
| Fall 2016 | ASEN 5018/6028, Graduate Projects – Course Coordinator |
| Spring 2017 | ASEN 5018/6028, Graduate Projects – Course Coordinator |
| Fall 2017 | Reduced (50%) AY Appointment |
| Spring 2018 | Reduced (50%) AY Appointment |
| Fall 2018 | Sabbatical |
| Spring 2019 | Sabbatical |
| Fall 2019 | ASEN 3300, Aerospace Electronics (reduced 50 AY appointment) |
| Spring 2020 | Entrepreneurial Fellows Fellowship ASEN 5254, Radar and Remote Sensing (Independent Study) |
| Fall 2020 | ASEN 3300, Aerospace Electronics |
| Spring 2021 | CubeSat Independent Study Research buyout for NSF Spectrum Innovation proposal |
| Fall 2021 | ASEN 3300, Aerospace Electronics ASEN 5018/6028, Graduate Projects – SWARM-EX cubesat project ASEN 5018/6028, Graduate Projects – MAXWELL cubesat project CubeSat Independent Study |
| Spring 2021 | ASEN 5018/6028, Graduate Projects – SWARM-EX cubesat project ASEN 5018/6028, Graduate Projects – MAXWELL cubesat project CubeSat Independent Study Research buyout for NSF SpectrumX Research Center Assoc. Director |
| Fall 2022 | ASEN 3300, Aerospace Electronics ASEN 5018/6028, Graduate Projects – SWARM-EX cubesat project ASEN 5018/6028, Graduate Projects – MAXWELL cubesat project ASEN 5018/6028, Graduate Projects – RALPHIE cubesat project ASEN 5018/6028, Graduate Projects – CANVAS cubesat project CubeSat Independent Study |
| Fall 2022 | ASEN 5018/6028, Graduate Projects – SWARM-EX cubesat project ASEN 5018/6028, Graduate Projects – MAXWELL cubesat project ASEN 5018/6028, Graduate Projects – RALPHIE cubesat project ASEN 5018/6028, Graduate Projects – CANVAS cubesat project CubeSat Independent Study Research buyout for NSF SpectrumX Research Center Assoc. Director |

SENIOR PROJECTS ADVISED

| SEMESTERS | PROJECT |
|-----------|--|
| F99/S00 | Fly by wireless |
| F01/S02 | Tornadochasers UAV |
| F02/S03 | Unmanned underwater vehicle (Hydrobuff) Tornadochasers UAV Drag free satellite |
| F03/S04 | Camcube Remote aquatic vehicle |
| F04/S05 | Heavy lift UAV (HAVUC) Skier location and performance experiment (SLOPE) |
| F10/S11 | Telescopic high definition earth imaging apparatus (THEIA) Extended range of versatile exploration rovers (XROVER) |
| F11/S12 | Diurnal star tracking for balloon borne attitude determination (DAYSTAR) Sample targeting and retrieval rover (STARR) |
| F12/S13 | Low Earth Orbit Project for the Acquisition and Recovery of Debris (LEOPARD) Auroral Camera for Exploring Space (ACES) |
| F13/S14 | Telemetric Interplanetary Regolith Explorer for Seismic Investigation of Asteroid Surfaces (TIRESIAS) Signal Integrity Verifying Autonomous Quadrotor (SIVAQ) |
| F20/S21 | Positioning for Lunar Observations (P4LO) |
| F21/S22 | CubeSat Star Tracker (Cube-IST) *Team won 2 nd place at AIAA Region V student paper competition |

INDEPENDENT STUDY STUDENTS ADVISED

| NAME | SEMESTER | PROJECT |
|----------------------------------|-------------|---|
| Mr. Mathew Smith (MS, ECE) | Spring 2000 | Meteor array antenna modeling |
| Mr. Chris Eheim (BS, AES) | Spring 2002 | UAV user interface |
| Mr. Cory Dixon (BS, AES) | Spring 2002 | UAV avionics |
| Mr. Scott Miller (BS, AES) | Spring 2003 | PIC microcontroller development |
| Mr. Thomas Bateman (BS, AES) | Spring 2004 | Aircraft stability augmentation |
| Mr. William Pisano (BS, AES) | Spring 2004 | PIC based helicopter controller |
| Mr. Dan Veronica (PhD, CEAE) | Spring 2004 | Microcontroller based building control |
| Mr. Jason Durrie (BS, AES) | Spring 2005 | Interfacing microcontroller to MMC memory |
| Mr. John Niece (BS, AES) | Spring 2005 | Compact flash based data recorder |
| Mr. Tim Schilling (BS, AES) | Spring 2005 | USB based data logger |
| Mr. Chris Bermel (BS, AES) | Fall 2007 | Cosmic Reflectron for Isotopic Analysis |
| Mr. Colin Miller (BS, AES) | Fall 2007 | Cosmic Reflectron for Isotopic Analysis |
| Ms. Brandi Casey (BS, AES) | Fall 2007 | Cosmic Reflectron for Isotopic Analysis |
| Mr. J. Doug Bean (MS, AES) | F07/S08 | Meteor Radar Software |
| Mr. Lee Jasper (MS, AES) | Fall 2009 | DANDE Mission Operations Development |
| Mr. Michael Reher (BS, AES) | Fall 2009 | Cubesat System Analysis |
| Mr. Lee Jasper (MS, AES) | Fall 2010 | DANDE Mission Operations Development |
| Mr. Jake Binney (MS, AES) | S11/F11 | SIMION particle simulations |
| Mr. Murali Nallamotheu (MS, ECE) | Spring 2011 | Cubesat communications system |
| Ms. Lynn Kendrick (MS, ECE) | Fall 2011 | Cubesat antenna simulation and test |
| Mr. Gabe LoDolce (MS, AES) | Spring 2012 | MIZOPEX sonde embedded system |
| Mr. Chris Bergner (MS, ECE) | Summer 2012 | GPS disciplined oscillator |
| Mr. Jacob Cook (MS, ECE) | Summer 2013 | Cubesat attitude control system |
| Mr. John Bullock (BS, ECE) | Spring 2014 | CUSP project software development |
| Ms. Alice Bradley (PhD, AES) | Spring 2014 | Sea Ice processes |
| Mr. David Hall (MS, AES) | Summer 2014 | Cubesat systems and testing |
| Ms. Megan Scheele (MS, AES) | Summer 2014 | Cubesat thermal and mechanical system |
| Mr. Sujit Nandkumar (MS, ECE) | Spring 2015 | QB50 Cubesat CDH software |
| Mr. Nick Rainville (PhD, AES) | Spring 2015 | QB50 Cubesat ADCS software |
| Mr. Andrew Dahir (PhD, AES) | Spring 2015 | QB50 Cubesat Solar Cells |

INDEPENDENT STUDY STUDENTS ADVISED - CONTINUED

| NAME | SEMESTER | PROJECT |
|--|-------------|---|
| Mr. Nicholas Nell (MS, ECE) | Spring 2015 | QB50 CubeSat CDH slotOS software |
| Mr. Swapnil Paratey (MS, ECE) | Spring 2015 | QB50 CubeSat CDH-ADCS interface |
| Mr. Gaurav Shukla (MS, ECE) | Spring 2015 | QB50 CubeSat CDH software |
| Mr. John Sobtzak (MS, ECE) | Spring 2015 | QB50 CubeSat antenna design |
| Mr. John Stark (MS, ECE) | Summer 2015 | QB50 CubeSat electronics design and test |
| Mr. Swapnil Paratey (MS, ECE) | Summer 2015 | QB50 CubeSat CDH-ADCS interface |
| Mr. John Sobtzak (MS, ECE) | Summer 2015 | QB50 CubeSat COM design |
| Mr. Nick Rainville (PhD, AES) | Fall 2015 | QB50 CubeSat ADCS software |
| Mr. Andrew Dahir (PhD, AES) | Fall 2015 | QB50 CubeSat Project Manager |
| Mr. Nicholas Nell (MS, ECE) | Fall 2015 | QB50 CubeSat CDH slotOS software |
| Mr. Andre Lucas Antunes De Sa (PhD, AES) | Spring 2016 | QB50 ADCS simulation |
| Mr. Akash Baskar (MS, ECE) | Spring 2016 | Software defined radio |
| Mr. Alex Forsman (MS, AES) | Summer 2016 | CU-E3 CubeSat project management |
| Mr. Robert Kane (MS, ME) | Summer 2016 | CU-E3 CubeSat mechanical design |
| Mr. Brett Shaffer (MS, AES) | Summer 2016 | MAXWELL CubeSat PDR |
| Mr. Andrei Iskra (BS, AES) | Fall 2016 | CU-E3 CubeSat mechanical fabrication |
| Mr. Andre Lucas Antunes De Sa (PhD, AES) | Fall 2016 | QB50 ADCS algorithms |
| Mr. Colden Rouleau (PhD, AES) | Fall 2016 | MAXWELL CubeSat CDH design |
| Mr. Colden Rouleau (PhD, AES) | Spring 2017 | MAXWELL CubeSat CDH design |
| Mr. Maurice Woods (MS, AES) | Summer 2017 | MAXWELL CubeSat CDH design |
| Mr. Ben Fried (MS, AES) | Summer 2017 | CU-E3 CubeSat CDH design |
| Mr. Robert Swartz (MS, AES) | Summer 2017 | CU-E3 CubeSat CDH design |
| Mr. Charles Gillard (MS, AES) | Spring 2019 | CU-E3 CubeSat Project Management |
| Mr. Chris Harnack (MS, AES) | Spring 2019 | CU-E3 CubeSat Thermal Analysis |
| Mr. Gabe Altman (BS, ECE) | Spring 2019 | CU-E3 CubeSat RF Receive Chain |
| Mr. Adam Nuhaily (MS, AES) | Spring 2019 | Development of STM32 for NOAA buoy |
| Mr. Wesley Caruso (BS, AES) | Spring 2019 | Testing of CU-E3 CubeSat hardware |
| Mr. Gregory Vorontsov (MS, AES) | Summer 2019 | CU-E3 CubeSat Safety Documentation for NASA |
| Mr. Brodie Wallace (PhD, AES) | Fall 2019 | CU-E3 CubeSat Project Management |
| Mr. Ryan Swanson (BS, ECE) | Fall 2019 | MAXWELL CubeSat S-band receiver |
| Ms. Anantara Prakash (MS, AES) | Fall 2019 | MAXWELL CubeSat EPS system |

INDEPENDENT STUDY STUDENTS ADVISED - CONTINUED

| NAME | SEMESTER | PROJECT |
|---------------------------------------|-------------|---|
| Mr. Vikas Nataraja (MS, AES) | Fall 2019 | MAXWELL CubeSat ADCS system |
| Mr. Ryan Swanson (BS, ECE) | Spring 2020 | MAXWELL CubeSat S-band receiver |
| Mr. Evan Bauch (MS, AES) | Spring 2020 | Radar and Remote Sensing |
| Mr. Collin Sullivan (MS, AES) | Spring 2020 | Radar and Remote Sensing |
| Mr. Nitik Gupta (MS, ECE) | Spring 2020 | MAXWELL CubeSat EPS system |
| Mr. Pavan Shiralagi (MS, ECE) | Spring 2020 | MAXWELL CubeSat CDH system |
| Mr. Nelson Rodriguez (MS, ECE) | Fall 2020 | MAXWELL CubeSat EPS system |
| Mr. Donovan Harshfield (BS, AES) | Spring 2021 | CU-E3 CubeSat Communications Testing |
| Ms. Chari Shrivatsan (MS, AESO) | Spring 2021 | MAXWELL CubeSat ADCS system |
| Mr. Nelson Rodriguez (MS, ECE) | Spring 2021 | MAXWELL CubeSat EPS system |
| Ms. Lara Lufkin (MS, AES) | Spring 2021 | CU-E3 CubeSat System Testing |
| Mr. Fernando Chavez (BS, AES) | Summer 2021 | Electronics |
| Mr. Kyle Johnson (MS, AES) | Fall 2021 | ENTICE Satellite Mission Simulation |
| Mr. Kyle Johnson (MS, AES) | Spring 2022 | ENTICE Satellite Mission Simulation |
| Mr. Lucio Murillo (BS, AES) | Spring 2022 | MAXWELL CubeSat Systems Engineer |
| Ms. Zoe Lee (MS, AES) | Summer 2022 | MAXWELL and RALPHIE CubeSat Structures system |
| Mr. Blake Wilson (BS, AES) | Fall 2022 | MAXWELL and RALPHIE CubeSat Structures system |
| Ms. Visalakshmi Chemudupati (MS, ECE) | Fall 2022 | MAXWELL CubeSat Software Development |
| Mr. Sricharan Kidambi (MS, ECE) | Fall 2022 | RALPHIE CubeSat CDH Design |

MENTORED UNDERGRADUATE STUDENTS

| NAME | DATES | PROJECT |
|--|-----------|---|
| Mr. Mike Kionka (BS, ECE) | 1998-2000 | Schematic capture and construction of meteor radar hardware |
| Mr. Scott Miller (BS, AES) | 2003 | Microcontroller development |
| Mr. Tyler Lewis (BS, AES) | 2005 | GPS receiver testing |
| Mr. Zach Eichmeyer (BS, AES & ECE) | 2004-2006 | Schematic capture and mechanical design |
| Mr. Zhuo Jing (BS, ECE) | 2006-2007 | Radar Receiver testing |
| Mr. Travis Schafhausen (BS, AES & ECE) | 2006-2007 | Mechanical design and construction, schematic capture |
| Ms. Samantha Krenning (BS, AES) | 2008 | Meteor radar application software |
| Mr. J. Michael Gordon (BS, AES) | 2009 | Data acquisition software development |
| Mr. Bruce Chen (BS, ECE) | 2010-2011 | Data visualization (DLA) |
| Mr. Nick Truesdale (BS, AES) | 2012 | Mentor Graphics (Earn Learn) |
| Mr. Austin Cerny (BS, AES) | 2012-2013 | Cubesat antenna deployment design (DLA) |
| Mr. Thomas Waters (BS, ME) | 2013-2014 | Cubesat mechanical design (DLA) |
| Ms. Alexandra Hickey (BS, ME) | 2014-2016 | Cubesat mission design (Work Study) |
| Mr. Jeffrey Fukushima (BS, ME) | 2014-2015 | QB50 Cubesat software (DLA) |
| Mr. Aaron About (BS, AES) | 2016-2017 | Maxwell Cubesat structural design (DLA) |
| Mr. Kyle Wislinsky (BS, ECEE) | 2017-2018 | CU-E3 Cubesat RF component design (DLA) |
| Mr. Matt Zola (BS, AES) | 2018-2019 | Maxwell Cubesat structural design (DLA) |
| Mr. Decaln Murray (BS, AES) | 2019-2020 | CU-E3 Cubesat testing (DLA) |
| Mr. Bailey Roker (BS, AES) | 2019-2020 | Maxwell Cubesat integration and testing (DLA) |
| Ms. Chava Freidman (BS, AES) | 2020-2021 | Maxwell Cubesat solar panel design and testing (DLA) |
| Ms. Anna Glass (BS, CS) | Fall 2021 | Distributed meteor radar software development (DLA) |
| Mr. Tyler Curnow (BS, CS) | 2021-2022 | Distributed meteor radar hardware development (DLA) |
| Mr. Blake Wilson (BS, AES) | 2021-2022 | MAXWELL Cubesat structures development (DLA) |
| Mr. Tanvir Abulkalam (BS, AES) | Fall 2021 | SWARM-EX CubeSat mission design (DLA) |

MENTORED UNDERGRADUATE STUDENTS - CONTINUED

| NAME | DATES | PROJECT |
|---------------------|-----------|---|
| Ms. Julia DiTomas | 2022-2023 | Lunar Position, Navigation, Timing and Communication System (DLA) |
| Mr. Jacob Ecks | 2022-2023 | Distributed Meteor Radar (DLA) |
| Mr. Preston Brumley | 2022-2023 | SWARM-EX CubeSat GPS design (DLA) |

SCOTT E. PALO SERVICE

Service – National and International

- American Institute of Aeronautics and Astronautics (AIAA) SciTech Conference
 - 2019-2022 - Executive Steering Committee
 - 2020-2022 - Technical Committee
 - 2020-2023 - Small Satellite Technical Chair
- American Institute of Aeronautics and Astronautics (AIAA) ASCEND Conference
 - 2019-2022 - Technical Committee
 - 2019-2023 - Small Satellite Technical Chair
- American Institute of Aeronautics and Astronautics (AIAA) Public Policy Committee
 - 2021-present - Programming subcommittee co-chair
 - 2015-present - Member
 - 2019-2021 - Honors and Awards subcommittee co-chair
- American Institute of Aeronautics and Astronautics (AIAA) Small Satellite Technical Committee
 - 2013-present - Member
 - 2020-present - Conference subcommittee Chair
 - 2018-2021 - Chair
 - 2013-2021 - Executive Steering Committee
 - 2016-2018 - Vice Chair
 - 2013-2016 - Web Master
- National Science Foundation (NSF)
 - 2020-present - Advanced Incoherent Scatter Radar Advisory Committee
 - 2018 – Antarctic Artists & Writers Program Review Panel
 - 2009-2012 - South Pole Users Committee (SPUC)
 - 2007 - Space Weather Program Review Panel
 - 2004 - Energetics and Dynamics (CEDAR) Program Review Panel
 - 2001 - Relocatable Optical and Radiowave Measurement Techniques Workshop steering committee
- National Aeronautics and Space Administration (NASA)
 - 2020 - Matisse Planetary Instrument Review Panel
 - 2010 - Heliophysics Review Panel
- Colorado Space Business Roundtable (CSBR)
 - 2015-2017 - Board of Directors
- QB50 “An international network of 50 CubeSats for multi-point, in-situ measurements in the lower thermosphere and re-entry research”
 - 2010-2017 - Executive Committee
 - 2010-2012 - Sensor Selection Working Group
- Sensors Journal (ISSN 1424-8220; 5-year impact factor 2.474)
 - 2015-2016 - Editor
- International Journal of Engineering Education
 - 2012-2013 - Guest Editor : Special Issue on Capstone Design, vol 30-1
 - 2010-2011 - Guest Editor : Special Issue on Capstone Design, vol 27-6

- ICSU Committee on Space Research (COSPAR) Chairman, subcommission C-2, The Earth's middle atmosphere and lower ionosphere, 2006-2014
- ICSU Scientific Committee on Antarctic Research (SCAR)
 - 2007-2009 - Chair Pan-Antarctic Observing System action group
 - 2004-2009 - Co-chair ICESTAR thematic group C
- ICSU Scientific Committee on Solar Terrestrial Research (SCOSTEP)
 - 2004-2008 - Climate and Weather of the Sun-Earth System (CAWSES), Atmospheric Coupling project coordinator
- ICSU Committee on Space Research (COSPAR)
 - 2002-2006 - Vice Chairman, subcommission C-2, The Earth's middle atmosphere and lower ionosphere
- National Academy of Science
 - 2004-2006 - Polar Research Board committee on Designing an Arctic Observing Network,
 - 2004 - Committee on Distributed Arrays of Small Instruments (DASI) for Research and Monitoring in Solar-Terrestrial Physics
- Department of Energy (DOE)
 - 2005 - external review committee for Los Alamos National Laboratory Deployable Adaptive Processing Systems (DAPS) program
- Barrow Arctic Sciences Consortium
 - 2001-2003 - Science Advisory Group

Service – College and Campus

- University of Colorado
 - 2019-2022 - National Security Working Group
 - 2019-2021 - Dean's Search Committee
 - 2013-2017 - Institute Directors Council
 - 2016-2017-Co-Chair, Laboratory for Atmospheric Physics (LASP Academic Review and Planning Advisory Committee (ARPAC)
 - 2014-2017 – Vice Chancellor for Research, Advisory Board
 - 2014-2017 – Vice Chancellor for Research, Research Review Board
 - 2011-2016 - Faculty Information Technology Advisory Committee
 - 2013-2014 - Chancellor's Grand Challenge Steering Committee
 - 2013-2014 - Federal Relations Advisory Council
 - 2010-2014 - Graduate School External Advisory Committee (EAC)
 - 2012-2013 – Office of Information Technology (OIT) Spaces Study Committee
 - 2012-2013 - Emerging Leaders Program
 - 2010-2011 - Committee for Associate Director of Academic Technology
 - 2008-2013 - Coordinator for Platteville Colorado research site
- College of Engineering (CEAS)
 - 2021-2023 – Distinguished Engineering Alumni Awards Selection Committee
 - 2019-2021 - CEAS Max Peters Service Award Selection Committee
 - 2014-2017 - Associate Dean for Research
 - 2014-2017 - Graduate Education Council (GEC)
 - 2014-2017- Dean's Cabinet

- 2014-2017 - Chair, College of Engineering Faculty Research Board
- 2014 - Coordinator for Research Opportunities Position Search Chair
- 2011-2014 - Undergraduate Education Council (UEC)
- 2006-2007 - Faculty Leadership Advancement Group
- 2006 - Internal Reviewer for the Colorado Space Grant Consortium
- 2001-2002 - Faculty Advisor for the Multicultural Engineering Program Fall Fling
- 2002 - Chair, University of Colorado Multicultural Engineering Program associate chair search committee

Service – Aerospace Engineering Sciences (AES)

- Instructor Chris Koehler Mentoring Committee, 2022-present
- Performance Evaluation Committee, 2019-present
- Chair, Roof Committee, 2019-present
- Professor Allie Anderson Mentoring Committee, 2017-present
- Executive Committee, 2012-2021
- Primary Unit Evaluation Committee (PUEC) for Professor Zoltan Sternovsky, 2021-2022
- Primary Unit Evaluation Committee (PUEC) for Dr. Christopher Williams, 2021-2022
- Primary Unit Evaluation Committee (PUEC) for Professor Jay McMahan, 2020-2021
- AES Strategic Vision Committee, 2019-2020
- Primary Unit Evaluation Committee(PUEC) for Professor Eric Frew, 2017-2018
- Primary Unit Evaluation Committee (PUEC) for Professor Dennis Akos, 2016-2017
- Faculty search committee 2014-2017
- Chair, Instructor Search Committee, 2015-2016
- Professor Zoltan Sternovsky Mentoring Committee, 2009-2016
- Aerospace Ventures Committee, 2013-2015
- Associate Chair for Undergraduate Studies, 2011-2014
- Chair, Undergraduate committee 2011-2014
- Building, Architecture and Program Plan Committee, 2013-2014
- Graduate Committee, 2013-2014
- Primary Unit Evaluation Committee (PUEC) for Professor Jeff Thayer, 2011-2012
- Primary Unit Evaluation Committee (PUEC) for Dr. Jim Maslanik, 2011-2012
- Focus Area Lead for Astrodynamics and Satellite Navigation, 2011-2012
- Chair, Instructor Search Committee, 2011-2012
- Chair Facilities committee 2011-2012
- Facilities committee 2010-2011
- Primary Unit Evaluation Committee (PUEC) for Professor Ryan Starkey 2010-2011
- Focus Area Lead for Remote Sensing Earth and Space Science, 2010-2011
- Mr. Joe Tanner Mentoring Committee, 2008-2012
- Graduate Committee, 2010-2012
- Fundraising Committee, 2009-2012
- Chair, Senior Projects Committee, 2006-2007
- Chair, CDIO Committee, 2006-2007
- Space Initiative Committee, 2006-2007

- Building Study Feasibility Committee, 2006-2007
- Colorado Center for Astrodynamics Research IT Committee, 2005-2007
- Co-Chair, Senior Projects Committee, 2005-2006
- Chair, KD Wood Colloquium Committee, 2005-2006
- Graduate Program Restructuring Committee, 200-32005
- Senior Projects Committee, 2002-2004
- LASP Cooperation Committee, 2002-2004
- Undergraduate Education Committee, 2003-2005
- Shop Committee, 2002-2003
- Co-Mentor for the National Center for Atmospheric Research (NCAR) Significant Opportunities in Atmospheric Research and Science (SOARS) Program (1996,1998,1999).
- Organized and directed Space Sciences Day at the CU Minority Engineering Program Exploring Engineering Institute, June 12-15, 1998.

Service – Conferences and Workshops

- American Astronautical Society (AAS) Guidance Navigation and Control Conference
 - 2018-present – Small Satellite Session National Chair
- American Astronautical Society (AAS) International Space Station Utilization Committee
 - 2013-2022 – Technical Committee
- European CubeSat Conference
 - 2012-2016 – Organizing Committee
 - 2015 Session Chair, London, England
 - 2014 Session Chair, Estavayer-le-lac, Switzerland
- National Capstone Conference
 - 2007-2010 - Co-Chair National Capstone Design Conference
 - 2006-2016 – Executive organizing and program committee
- AIAA Small Satellite Conference
 - 2009 Session Chair, Logan, UT
- American Institute of Aeronautics and Astronautics Rocky Mountain Symposium
 - 2016 - Invited panelist: Political Influences on the Colorado Aerospace Economy Panel
 - 2015 - Invited panelist: Education and Industry Panel, 2015
- International Union of Geodesy and Geophysics (IUGG)
 - 2007 - Chaired a session at the XXIV General Assembly of the International Union of Geodesy and Geophysics, Perugia Italy
- ICSU Committee on Space Research (COSPAR)
 - 2006 - Main Scientific Organizer for a session entitled “Meteor Science and Techniques: Composition, Sources, Sinks and Global Distribution of Meteoric Metals”, at the 36th COSPAR scientific assembly, Beijing, China
 - 2002 - Deputy scientific organizer for session C2.3 “The non-zonal structures in the middle atmosphere and lower-thermosphere” at the 34th COSPAR scientific assembly, Houston TX
- National Science Foundation (NSF) CEDAR Conference
 - 2005 - Organized and convened a workshop on TIMED/CEDAR Collaborative Atmospheric Dynamics, Santa Fe NM
 - 2005 - Organized, convened, and chaired a workshop on Mesosphere and Lower Thermosphere Zonal Mean and Wave Variabilities, Santa Fe NM

- 2004 - Organized, convened, and chaired a workshop on Polar Mesospheric and Lower/Thermospheric Dynamics, Santa Fe NM
- 2003 - Organized, convened, and chaired a workshop on TIMED science and validation, Longmont CO
- 2000 - Organized and convened a measurement intercomparison workshop, Boulder CO
- 1998 - Organized, convened and edited a report for the Large-Scale Waves and Dynamics Working Group at the second NASA/NSF sponsored TIMED/CEDAR workshop
- 1996- Organized and convened data analysis workshop, Boulder CO, June 1996.
- American Geophysical Union (AGU)
 - 2005 - Organized, convened, and chaired a session entitled “Emerging Technology for Environmental Sensor Networks I”, at the American Geophysical Union meeting, San Francisco, CA
 - 2005 - Organized, convened, and chaired a session entitled “Mesosphere and Lower Thermosphere; Energetics and Dynamics Posters”, at the American Geophysical Union meeting, San Francisco, CA
 - 2000 - Organized, convened, and chaired a session entitled “The Mesosphere/Lower Thermosphere Region: Structure, Dynamics, Composition and Emission”
- Sponsored, organized and convened a workshop on Antarctic mesosphere and lower thermosphere wind and temperature observations, Sep 26-29, 2005, Hobart, Tasmania.
- Chaired a session at the IAGA/ICMA workshop on Vertical Coupling in the Atmosphere/Ionosphere System, Bath UK, July 2004.
- Sponsored, organized and convened a workshop on radar MLT measurement techniques, June 12 & 13, 2003, University of Colorado, Boulder CO.
- ICSU International Union of Radio Scientists (URSI) National Radio Science meeting
 - 2001 - Technical committee
 - 2001 - Steering committee

Reviewer for:

Advances in Space Research
 Annales Geophysicae
 Earth, Planets and Space
 Geophysical Research Letters
 Geomagnetism and Aeronomy International
 Journal of Geophysical Research - Space Physics
 Journal of Geophysical Research - Atmospheres
 Journal of Atmospheric and Solar-Terrestrial Physics
 National Capstone Design Conference
 National Science Foundation
 NASA
 Radio Science
 Sensors Journal
 U.S. Civilian Research and Defense Organization

SCOTT E. PALO PRESENTATIONS

INVITED PRESENTATIONS

1. Palo, S.E., Evolving Spectrum-Sharing Regulation through Data-, Science- and Technology-Drive Analysis and Decision-Making, panel on Industry Lessons Learned from Spectrum Sharing, Jun., 2022, Virtual.
2. Palo, S.E. Leveraging Commercial Space or Earth and Ocean Remote Sensing: A Dissemination Workshop, Panel on Infrastructure and Technology Needs to Service and Emergent User Community”, Jun., 2022, Washington DC.
3. Palo, S.E., "Emerging Aerospace Platforms: A Disruptive Technology", United States Telecommunications Training Institute, Boulder, CO, Jun. 2019.
4. Palo, S.E., "So you want to build a CubeSat ... with students, Really?", 15th Annual International Planetary Probe Workshop, Boulder, CO, Jun. 2018.
5. Palo, S.E. "The Rise of Small Satellites and the Potential Scientific Impact", Invited Seminar, Boston University, Oct., 2017.
6. Palo, S.E., "Using a Constellation of CubeSats to Conduct Thermospheric Science: The QB50 Mission", Invited Plenary Speaker, NSF Coupling, Energetics and Dynamics Workshop, Keystone, CO, Jun., 2017.
7. De Boer, G., M. Shupe, A. McComiskey, J. Creamean, C.R. Williams, S.Y. Matrosov, A. Solomon, D. Turner, M. Norgren, M. Maahn, D. Lawrence, B. Argrow. S.E. Palo, D. Weibel, N. Curry, T. Nichols, P. D'Amore and W. Finamore“, Recent Observational Efforts Using the DOE ARM Observatory at Oliktok Point, Alaska”, American Geophysical Union Fall Meeting, San Francisco, CA, Dec., 2016.
8. Palo, S.E., “Some Thoughts on Gnu and Software Defined Radio”, GnuRadio Conference, Boulder Colorado, September 2016 (Keynote Speaker).
9. Palo, S.E., “A Very Incomplete History of Meteor Radar with a Focus on Winds”, Multistatic Meteor Radar Workshop, Kuhlungsborn, Germany, June 2016.
10. Li, X., T. Woods, S.E. Palo, J. Mason and R. Kohnert, “Generations of CubeSat in University of Colorado to Address Heliospheric Physics”, 2015 Asia-Oceania Geosciences Society (AOGS) Meeting, Singapore, Aug. 2015.
11. Palo, S.E., “So you want to build a CubeSat?” Smead Symposium, Vail CO, May 2015.
12. Palo, S.E., “Using Small Satellites to Conduct Space Physics Research”, Leibnitz Institute for Atmospheric Physics, Kuhlingsborn Germany, Oct. 2014.
13. Palo, S.E., X. Li, D. Gerhardt, L. Blum, Q. Schiller and R. Kohnert, On-Orbit Performance of the Colorado Space Weather Experiment (CSSWE)”, 224th American Astronomical Society Meeting, Boston, MA, May., 2014.
14. Li, X., S.E. Palo, et al., “Colorado Student Space Weather Experiment (CSSWE) CubeSat Mission: A Success in Education, Engineering, and Science”, NSF GEM workshop, Snowmass, Colorado, Jun. 2013.
15. Li, X., S.E. Palo, et al., “New results from the Colorado CubeSat and comparison with Van Allen Probes data”, AGU Meeting of Americas, Cancun, Mexico, May 2013.
16. Li, X., S.E. Palo, et al., “First Results from Colorado Student Space Weather Experiment (CSSWE): Energetic Particle Distribution in Near Earth Environment”, Space Weather Week Meeting, Boulder, Colorado, Apr. 2013.

17. Li, X., S.E. Palo, et al., "Science Results from Colorado Student Space Weather Experiment (CSSWE): Energetic Particle Distribution in Near Earth Environment", EGU, Vienna, Apr. 2013.
18. Palo, S.E., "Excellence in Aerospace Engineering Sciences", CU Leeds School of Business Annual Advisory Board Meeting Keynote Address, Boulder, CO, Apr. 2013.
19. Li, X., S.E. Palo, et al., "Small Mission (CSSWE) – Big Impact on Space Weather Research, an invited talk given to Deep Space Exploration Society", Boulder, Colorado, Mar. 2013.
20. Palo, S.E., "Cool Science in Antarctica: The Near Earth Space Environment", Colorado Spring Cool Science Festival, Colorado Springs, CO, Oct. 2012.
21. Palo, S.E., "Rossby Waves: A Tutorial", CEDAR workshop, Santa Fe, NM, June 2012.
22. Palo, S.E. and C. Vaudrin, "The Mesosphere: Linking Earth to Space", Amundsen-Scott South Pole station, February 2011.
23. Palo, S.E., "Solar Forced Thermal Tides in the Atmosphere", University of Canterbury, New Zealand, Apr., 2010.
24. Simley E., P. Moriarty, S. Palo, "Development of an Acoustic Array for Wind Turbine Noise Analysis", National Renewable Energy Laboratory, Golden, CO, Dec., 2008.
25. Palo, S.E., M. Pilinski, B. Davis, K. Kemble, "The Drag and Neutral Density Explorer Satellite", United Launch Alliance, Littleton, CO, Nov., 2008.
26. Palo, S.E., M. Pilinski, B. Davis, B. Gilles, A. Tomchek, "The Drag and Neutral Density Explorer Satellite", Laboratory for Atmospheric and Space Physics, Boulder, CO, Oct., 2008.
27. Palo, S.E., "Solar Forced Tides in the Atmosphere", Australian Antarctic Division, Hobart, Tasmania, Dec. 2007.
28. Palo, S.E., M. Iimura, Q. Wu, T.L. Killeen, and S.C. Solomon, "Structure of the Polar Non-Migrating Semidiurnal Tide Observed from TIDI", XXIV General Assembly of the IUGG, Perugia, Italy, Jul. 2007.
29. Palo, S.E., "Educational Aspects on Small Satellites from an Aerospace Engineering Perspective", CEDAR workshop", Santa Fe, NM, June 2007.
30. Palo, S.E., "A Tutorial on Meteor Radar Systems", CEDAR workshop", Santa Fe, NM, June 2007.
31. Palo, S.E., Upward Propagating Solar Induced Dynamical Influences on the Polar Mesosphere and Lower Thermosphere: Atmospheric Tides, Greenland Space Science Symposium, Kangerlussuaq Greenland, May, 2007.
32. Palo, S.E., "Meteors, meteor radar and mesospheric winds", Laboratory for Atmospheric and Space Physics, Boulder, CO, Oct., 2006.
33. Kozyra, J.U., G. Crowley, B.A. Emery, X.Fang, G. Maris, M. G. Mlynczak, R. J. Niciejewski, S. E. Palo, L. J. Paxton, C. E. Randall, P.-P. Rong, J. M. Russell III, W. Skinner, S. C. Solomon, E. R. Talaat, Q. Wu, J.-H.Yee, "Changes in the upper/middle atmosphere during powerful high speed streams in 2003: A new pathway for forcing long-term variability", The Second International Symposium on Space Climate, Long-Term Change in the Sun and its Effects in the Heliosphere and Planet Earth, Sinaia, Romania, Sep., 2006.
34. Forbes, J.M., S.E. Palo, X. Zhang, J.M. Russell, C.J. Mertens, and M. Mlynczak, "Vertical coupling by planetary waves as revealed by the SABER instrument on TIMED" , IAGA/ICMA Workshop on Vertical Coupling in the Atmosphere/Ionosphere System, Varna, Bulgaria, Sep., 2006.
35. Forbes, J.M., X. Zhang, S.E. Palo, J.M. Russell, C.J. Mertens, and M. Mlynczak, "Mesosphere-thermosphere penetration of stratosphere planetary waves from TIMED/SABER temperature measurements" , 36th COSPAR Scientific Assembly, Beijing, China, Jul., 2006.

36. Portnyagin, Yu.I., T. Solovjova, E. Merzlyakov, J. Forbes, S.E. Palo, M.E. Hagan, et. al., "Mesosphere/lower thermosphere migrating diurnal tide model", 36th COSPAR Scientific Assembly, Beijing, China, Jul., 2006.
37. Palo, S.E., "Meteors, winds, sodium and tides: What is the connection?", Sigma Xi, Boulder, CO, Nov., 2005.
38. Palo, S.E., A. Weatherwax, K. Kauristie, A. Ridley, V. Papitashvili et al., "ICESTAR: Interhemispheric conjugacy effects in solar-terrestrial and aeronomy research", 32nd Annual European Meeting on Atmospheric Studies by Optical Methods", London, Ontario, Sep., 2005.
39. J.M. Forbes, S.E. Palo, J. Russell, C.J. Mertens, G. Burns, P. Espy and T. Kawahara, "Troposphere-Thermosphere planetary wave coupling during the 2002 southern hemisphere pre-stratwarm period", 10th Scientific Assembly of IAGA, Toulouse France, Jul., 2005.
40. Kozyra, J.U., G. Crowley, B.A. Emery, G. Lu, M. Hagan, M. Mlynczak, R.J. Niecejowski, S.E. Palo, L.J. Paxton, J.M. Russell, S.C. Solomon, W. Skinner, Q. Wu, J-H, Yee and X.H. Fang, "Response of the upper/middle atmosphere to high-speed streams in the solar wind: First comprehensive TIMED/CEDAR observations", Chapman conference on corotating solar wind streams and recurrent geomagnetic activity, Manaus, Brazil, Feb., 2005.
41. Forbes, J.M., S.E. Palo, A. Svoboda, M.E. Hagan, S. Miyahara, and M. Yoshikawa, "Mesosphere-Thermosphere Coupling", American Geophysical Union Fall Meeting, San Francisco, CA, Dec., 2004.
42. Forbes, J.M., S.E. Palo, M.E. Hagan, S. Miyahara, and F. Vial, "New perspectives on Atmospheric Tides and Planetary Waves from the TIMED Mission", American Geophysical Union Fall Meeting, San Francisco, CA, Dec., 2004.
43. Palo, S.E., C. Meek, A. Manson, C. Hall, D. Riggin, R.A. Vincent, D. Murphy, N. Mitchell, J.M. Forbes, J. Russell, M. Mlynczak, and C. Mertens, "Using ground-based radar and TIMED observations to study tidal and planetary wave interactions", 35th Assembly of the Committee on Space Research, Paris, France, Jul. 2004.
44. Palo, S.E., H. Liu, R.G. Roble, R. Garcia, J.M. Russell, and M. Mlynczak, "Propagation of the quasi-two-day wave into the thermosphere/ionosphere system using the NCAR TIMEGCM", IAGA/ICMA workshop on vertical coupling in the atmosphere/ionosphere system, Bath, UK, Jul. 2004.
45. Palo, S.E., "Bipolar Aeronomy: Coupling the lower, middle and upper atmosphere", ICESTAR workshop, Veillefranche-sur-mer, France, Apr. 2004.
46. Palo, S.E., "Using meteors to measure the wind", Amundsen-Scott South Pole station, January 2004.
47. Palo, S.E., "TIMED/CEDAR studies using SABER and ground-based radar", International Antarctic Workshop, Adelaide, Australia, Oct. 2003.
48. Palo, S.E., "An update on CEDAR/TIMED ground-based radar collaboration", joint US/Japan workshop", Jackson Hole, WY, Sep. 2003.
49. Forbes, J.M., J. Russell, X. Zhang, S. Miyahara, S. Palo, S. Miyoshi, M. Mlynczak, C.J. Mertens, and R. Garcia, "Nonmigrating tides as measured by the SABER instrument on TIMED during April-May 2002", Joint European Geophysical Society and American Geophysical Union Meeting, Nice, France, Apr. 2003.
50. Palo, S.E., "Tides in the mesosphere", GPS Earth Observatory Workshop, Jet Propulsion Laboratory, Pasadena, CA, Mar. 2003.
51. Palo, S.E., "Ionospheric and thermospheric variability: Effects of upward propagating global-scale waves", American Geophysical Union Spring Meeting, Boston, MA, Jun. 2001.
52. Palo, S.E., "Nonlinear wave/wave interactions in the middle atmosphere", Workshop on Lower Atmosphere Effects on the Ionosphere and Upper Atmosphere, Prague, Czech Republic, 2000.

53. Palo, S.E., "Using combined satellite and ground-based observations to infer large-scale dynamical structure", Planetary Scale Mesopause Observing System Workshop, Toronto, Canada, 2000.
54. Palo, S.E., "Tides and planetary waves in the polar mesopause region: A review of observations and theory", 9th Workshop on Technical and Scientific Aspects of MST Radar, Toulouse, France, 2000.
55. Palo, S.E., "Meteor radar aeronomy: Observations over South Pole", National Center for Atmospheric Research High Altitude Observatory Colloquium, Boulder, CO, 1998.
56. Palo, S.E. R.G. Roble, and M.E. Hagan, "Simulations of the quasi-two-day wave in the TIME-GCM: Effects in the middle atmosphere", International Symposium on Dynamics and Structure of the Mesopause Region, Kyoto, Japan, 1998.
57. Forbes, J.M., Yu. I. Portnyagin, N. A. Makarov, S.E. Palo, and E.G. Merzlyakov, "Dynamics of the lower thermosphere over South Pole from meteor radar measurements", International Symposium on Dynamics and Structure of the Mesopause Region, Kyoto, Japan, 1998.
58. Palo, S.E. and M.E. Hagan, "An intercomparison between GSWM, UARS and ground based radar observations: A case study in January 1993", American Geophysical Union Spring Meeting, Baltimore, MD, 1997.
59. Palo, S.E., "The quasi-two-day wave: Observations, theory and modeling", National Center for Atmospheric Research High Altitude Observatory Colloquium, Boulder, CO, 1996.
60. Avery, S.K. and S.E. Palo, "The periodogram and its statistical properties", 9th Annual CEDAR Workshop, Boulder, CO., 1993.
61. Avery, S.K., S.E. Palo, R.A. Vincent and D. Lessicar, "Radar wind measurements during the ALOHA-90 campaign", American Geophysical Union Fall Meeting, San Francisco, CA, 1990.

CONTRIBUTED PRESENTATIONS

1. Marino, J., N. Rainville and S.E. Palo, "A Fully Polarametric Meteor Radar", URSI National Radio Science Meeting, Jan. 2023.
2. Rainville, N., J. Marino, and S.E. Palo, "Initial Calibration and Operation of the Colorado Zephyr Meteor Radar Network", URSI National Radio Science Meeting, Jan. 2023.
3. Cannon, J.M. , R.A, Marshall, D.M. Malaspina, R.A. Reid, S. Palo, T. Dudok de Wit, and Guillaume Jannet, "Quantifying Terrestrial VLF Energy Input into the Earth's Magnetosphere with the CANVAS CubeSat", URSI National Radio Science Meeting, Jan. 2023.
4. Monaco, J., Z. Lee, L. Murillo, B. Wilson, M. Bergman, C. Decker, V. Chemudupati, S. Kidambi, and S. Palo, "RALPHIE: Radio And Laser Path Agnostic Communications Experiment", AIAA Rocky Mountain Section Annual Technical Symposium, Boulder, CO, Sep. 2022.
5. Palo, S.E., N. Rainville, R. Redfern, B. Roker, D. Fitzpatrick, K. Yevak and M. Patel, "The MAXWELL Cubesat, AIAA Rocky Mountain Section Annual Technical Symposium, Boulder, CO, Sep. 2022.
6. Palo, S.E., N. Rainville, A. Zara, M. Patel and K. Yevak, "The MAXWELL CubeSat Attitude Determination and Control System", AIAA Rocky Mountain Section Annual Technical Symposium, Boulder, CO, Sep. 2022.
7. Palo, S.E., M. Zheng, D. Fitzpatrick, G. Kirchhoff, A.J. Cuddeback and Z. Weins, "Space Weather Atmospheric Reconfigurable Multiscale Experiment (SWARM-EX)", AIAA Rocky Mountain Section Annual Technical Symposium, Boulder, CO, Sep. 2022.
8. Palo, S., N. Rainville, J. Marino, A. Angwin, T. Curnow, R. Voltz, P. Erickson and F. Lind, "Recent Deployment and Results from the Zephyr MIMO Meteor Radar in Colorado", Committee on Space Research, Athens, Greece, Jul. 2022.
9. Palo, S., W. Lohmeyer, D. Fitzpatrick, R. Argarwal, A. Kreizis, M. Pilinski, J. Thayer, N. Rainville, G. Lightsey, K. Lemmer, S. Latif, S. D'Amico and the SWARM-EX Team, "The Space Weather Atmospheric Reconfigurable Multiscale Experiment (SWARM-EX) CubeSat", Committee on Space Research, Athens, Greece, Jul. 2022.
10. Jorgensen, T., R. Bishop, S. Palo, N. Paschalidis, and C. Swenson, "Probing the Lower-Thermosphere-Ionosphere in-situ with Small Spacecraft", Committee on Space Research, Athens, Greece, Jul. 2022.
11. Palo, S., P. Axelrad, N. Rainville, J. Marino, B. Wallace, M. Shihabi and D. Ogbe, "A Small Satellite Lunar Communications and Navigation System", NASA 2022 Technology Exposition, Virtual, Jun. 2022.
12. Axelrad, P., D. Akos, J. Morton, S. Palo, R. Kingsbury, B. Breitsch, H. Bourne, S. Taylor, M. Dobbin, L. Scott, "On Demand PNT (OD-PNT)," Joint Navigation Conference (JNC) 2022, San Diego, CA, June 2022.
13. Buynovskiy, A., J.P. Thayer, M.D., Pilinski, E.K. Sutton, S.E. Palo, "Characterizing High-Resolution Temporal and Spatial Changes of the EIA and ETA ", National Science Foundation Coupling Energetics and Dynamics of Atmospheric Regions meeting, Austin, TX, June 2022,
14. Palo, S.E., R.W. Kingsbury and J.C. Twichell, "Low-SWaP Optical Crosslinks with Cobalt", CubeSat Developers Workshop (CDW), San Luis Obispo CA, Apr. 2022.
15. Lisy, C., L. Hu, B. Oh, A. Kriezis, W.Q. Lohmeyer, S. Palo, "CubeSat Hinge Design and Analysis for Dual Deployable Solar Panels", 19th Annual CubeSat Developers Workshop (CDW), San Luis Obispo CA, Apr. 2022.
16. Oh, B., C. Lisy, G. Tran, S. Palo, and W.Q. Lohmeyer, "Analysis of Single Event Effects in Small Satellites", 19th Annual CubeSat Developers Workshop (CDW), San Luis Obispo CA, Apr. 2022.

1 – Graduate Student is first author

- Award winning paper

17. Jiang, J., K. Johnson, Q. Yue, and S. Palo, "ENTICE Satellite Orbital Simulator Enhanced with ARTS", EGU General Assembly 2022, Vienna, Austria, 23–27 May 2022, EGU22-3315, <https://doi.org/10.5194/egusphere-egu22-3315>.
18. Axelrad, P., D. Akos, J. Morton, S. Palo, R. Kingsbury and L. Scott, "On Demand Positioning, Navigation, and Timing (OD-PNT)", ION Joint Navigation Conference, Covington, Kentucky, 2021.
19. Wang¹, J., S. Palo, J. Forbes, J. Marino, T. Moffat-Griffin, "Burst of Unusual Quasi-10 day Wave During the 2019 Southern Sudden Stratospheric Warming", EGU General Assembly, EGU21-296 10.5194/egusphere-egu21-296, 2021.
20. Reid, R.A., R.A. Marshall, S.E. Palo and D.M. Malaspina, "A Compact Five-Channel VLF Wave Receiver for CubeSat Missions", Small Satellite Conference, virtual, Aug. 2021.
21. Agarwal, R., B. Oh, D. Fitzpatrick, A. Buynovskiy, S. Lowe, C. Lisy, A. Kriezis, B. Lan, Z. Lee, A. Thomas, B. Wallace, E. Costantino, G. Miner, J. Thayer, S. D'Amico, K. Lemmer, W. Lohmeyer and S. Palo, "Coordinating Development of the SWARM-EX CubeSat Swarm Across Multiple Institutions", Small Satellite Conference, virtual, Aug. 2021.
22. Wang¹, J., S. Palo, J. Forbes, J. Marino and T. Moffat-Griffin, "Unusual Quasi-10-day Waves and Ionospheric Responses During the 2019 Southern Hemisphere Sudden Stratospheric Warming", 18th Annual AOGS2021 Meeting, virtual, Aug. 2021.
23. Buynovskiy¹, A., D. Fitzpatrick, Z. Lee, S. Palo, J. Thayer and M. Pilinski, "Resolving the Spatial/Temporal Ambiguity of the EIA and ETA Using a LEO CubeSat Swarm Configuration", NSF CEDAR Meeting, virtual, Jun. 2021.
24. Wang¹, J., and S. Palo, "Numerical study to uncover the driving mechanisms of the migrating diurnal tide day-to-day variability", NSF CEDAR Meeting, virtual, Jun. 2021.
25. Kingsbury, R., J. Twichell and S. Palo, "Cobalt Optical Crosslink Transceiver for SWaP-constrained Missions", CubeSat Developers Workshop, virtual, Apr. 2021.
26. M. Mubasshir, B. Wallace, S. Latif, and S. Palo, "A Circularly-Polarized X-band Patch Array Antenna with Corporate Feeding for CubeSats", CubeSat Developers Workshop, virtual, Apr. 2021.
27. Thomas, A., K. Lemmer, S. Palo, B. Wallace, W. Lohmeyer, R. Agarwal, R. Mah and S. Latif "SWARM-EX Educational Programs in the Development of a Collaborative CubeSat Swarm", CubeSat Developers Workshop, virtual, Apr. 2021.
28. Volz, R., P.J. Erickson, F.D. Lind, S.E. Palo, N. Rainville, J. Marino, J. Chau and J. Vierinen, "Update on Zephyr and a Vision for Distributed MIMO Meteor Radar Networks", NSF CEDAR Meeting, virtual, Jun. 2021.
29. Caspi, A., A.Y. Shih, S. Panchapakesan, H. P. Warren, T. N. Woods, M. Cheung, C. E. DeForest, J. A. Klimchuk, G.T. Laurent, J.P. Mason, S.E. Palo, D.B. Seaton, M. Steslicki, S. Gburek, J. Sylwester, T. Mrozek, M. Kowaliński and M. Schattenburg, "The CubeSat Imaging X-ray Solar Spectrometer (CubIXSS)", 237th Meeting of the American Astronomical Society, Jan. 2021.
30. Zhao, Y., M.J. Taylor, K. Zia, B. Thurairajah, J. Marino, J. Wang, P.D. Pautet, S. Palo, M.E. Hervig, "Observing the 2019 Southern Hemisphere Sudden Stratospheric Warming over Antarctica using ground-based and satellite measurements", AGU Fall Meeting 2020, 2020AGUFMSA006..12Z.
31. Warshaw¹, L., S. Palo and D. Van Buren, "Design of a Low Power CDMA S-Band Receiver for CubeSat Constellations", AIAA Small Satellite Conference, Logan, UT, Aug. 2019.
32. Wang¹, J., and S. Palo, "Modeling Study of Short-term Variability of the Migrating Diurnal Tide", NSF CEDAR Meeting, Santa Fe, NM, Jun. 2019.
33. Palo, S., M. Pilinski, J. Thayer, S. D'Amico, S. Latif, K. Lemmer, W. Lohmeyer and G. Lightsey, "Space Weather Atmospheric Reconfigurable Multiscale Experiment CubeSat (SWARM-EX)", NSF CEDAR Meeting, Santa Fe, NM, Jun. 2019.

34. Dahir¹, A., D. Kubitschek and S. Palo, "Progression of Recovering Time & State for Autonomous Navigation Systems in Deep Space", 42nd Annual AAS Guidance & Control Conference, Breckenridge, CO, Jan. 2019.
35. Marino¹, J., N. Rainville, and S. Palo, "Multi-static Meteor Radar", URSI, Boulder, CO, Jan., 2019.
36. Palo, S.E., "Designing, Building and Operating Small Satellites in a University Environment", North American Geological Remote Sensing Group, Boulder, CO, Jul. 2018.
37. Palo, S.E., "Small Satellite Efforts at the University of Colorado Boulder", 15th Annual International Planetary Probe Workshop", Boulder, CO, Jun. 2018.
38. Dahir¹, A., D. Kubitschek, and S.E. Palo, "Recovering Time and State For Autonomous Navigation Used for Small Satellites", 15th Annual International Planetary Probe Workshop", Boulder, CO, Jun. 2018.
39. Sobtzak, J.S. and S.E. Palo, " The CU-E3 Cubesat: An Entry in NASA's Cube Quest Challenge's Deep Space Derby ", 15th Annual International Planetary Probe Workshop", Boulder, CO, Jun. 2018.
40. Rainville¹, N., S.E. Palo, and K.M. Larson, "Applying the GNSS Volcanic Ash Plume Detection Technique to Consumer Navigation Receivers", American Geophysical Union Fall Meeting, New Orleans, LA, Dec., 2017.
41. Palo, S.E. A. Dahir, N. Rainville, A. Antunes de Sa, C. Rouleau, N. Nell, M. Woods and B. Schwab, "Lessons learned from the Challenger Mission on QB50", European Cubesat Conference, Oostende, Belgium, Nov. 2017.
42. Palo, S.E. J. Sobtzak, B. Fried, K. Wislinsky, V. Joshi, D. Bansal, A. Aboaf, C. Dhangekar, J. Wagner, M. Williams, M. Deluca, N. Sonth, T. Moyer, L. Khoo, A. Forsman, T. Green, H. Ma, C. Musgrave, B. Branham, A. Herr, C. Gillard, T. Nielsen, K. Artner, and M. Pilinski, "The Colorado Earth Escape Explorer (CU-E3) a Deep Space Cubesat", European Cubesat Conference, Oostende, Belgium, Nov. 2017.
43. Palo, S., T. Woods, R. Kohnert and J. Mason, "Designing, Building and Operating Small Satellites in a University Environment", 3rd COSPAR Symposium : Small Satellites for Space Research, JeJu Island Korea, Oct., 2017.
44. Woods, T.N., J.P. Mason, A. Chandran, S. Palo and C. Rouleau, "Capacity Building for Sharing Low-Cost CubeSat Ground Stations", 3rd COSPAR Symposium : Small Satellites for Space Research, JeJu Island Korea, Oct., 2017.
45. Sobtzak, J., E. Tianang, B. Branham, N. Sonth, M. DeLuca, T. Moyer, S. Palo, "A Deep Space Radio Communications Link for CubeSats: The CU-E3 Communication Subsystem, Small Satellite Conference, Logan, UT, Aug., 2017.
46. Loucks¹, D., S.E., M. Pilinski, G. Crowley, I. Azeem and D. Hampton, "PFISR GPS Tracking Mode for Researching High Latitude Ionospheric Electronic Density Gradients Associated with GPS Scintillation", URSI, Boulder, CO, Jan., 2017.
47. Bradley¹, A.C., and S.E. Palo, "Understanding first-year ice thickness variability using IceBridge measurements and drift track analysis", American Geophysical Union Fall Meeting, San Francisco, CA, Dec., 2016.
48. Loucks¹, D., S.E., M. Pilinski, G. Crowley, I. Azeem and D. Hampton, "PFISR GPS Tracking Mode for Researching High Latitude Ionospheric Electronic Density Gradients Associated with GPS Scintillation", American Geophysical Union Fall Meeting, San Francisco, CA, Dec., 2016.
49. Rainville¹, N., K.M. Larson, S.E. Palo, M. Mattia, M. Rossi, M. Coltelli, C. Roesler and D. Fee, "Detecting Volcanic Ash Plumes with GNSS Signals", American Geophysical Union Fall Meeting, San Francisco, CA, Dec., 2016.

50. deBoer, G., D. Lawrence, S.E. Palo, B.M. Argrow, G. LoDolce, J. Mack, N. Curry, W. Finamore, J. Fromm, P. D'Amore, D. Weibel, C.N. Long, R-S. Gao, H. Telg, B. Schmid, M. Ivey, A. Bendure and G. Bland, "An update on unmanned aircraft operations along the North Slope of Alaska to understand the lower Arctic troposphere", American Geophysical Union Fall Meeting, San Francisco, CA, Dec., 2016.
51. Nguyen¹, V., R.S. Lieberman and S.E. Palo, "Impacts of nonlinear tidal-planetary wave interactions on the space-atmosphere interaction region", American Geophysical Union Fall Meeting, San Francisco, CA, Dec., 2016.
52. Loucks^{1,#}, D., S.E., M. Pilinski, G. Crowley, I. Azeem and D. Hampton, "PFISR GPS Tracking Mode for Researching High Latitude Ionospheric Electronic Density Gradients Associated with GPS Scintillation", 10th Annual Earth Systems and Space Science Poster Conference, Boulder, CO, Nov. 2016. – winner best poster (middle and upper atmosphere).
53. Nguyen¹, V., S.E. Palo and N. Livesey, "Non-Linearly Interacting Waves in the Earth's Upper Atmosphere as Discerned in the New JPL "MUSTARD" Observation Record", JPL SURP Research Conference, Pasadena, CA, Nov. 2016.
54. Dahir¹, A., and S. Palo, "QB50 Challenger: Integration, Testing and Technical Challenges ", AIAA-RM Annual Technical Symposium, Golden CO, Oct. 2016.
55. Rouleau¹, C., A. Dahir, A. Lucas Antunes De Sa, M. Cirbo, M. Woods III, N. Nell, N. Rainville and S. Palo, "QB50 Challenger C&DH Software: Lessons Learned on a Student Team ", AIAA-RM Annual Technical Symposium, Golden CO, Oct. 2016.
56. Loucks¹, D., S.E., M. Pilinski, G. Crowley, I. Azeem and D. Hampton, "PFISR GPS Tracking Mode for Researching High Latitude Ionospheric Electronic Density Gradients Associated with GPS Scintillation", AIAA-RM Annual Technical Symposium, Golden CO, Oct. 2016.
57. Palo, S.E., T.N. Woods, J.P. Mason, C.S. Moore, C. Rouleau, C. Downs, D. Hegel, M.D. Baumgartner, B. Rogler, G. Stafford, A. Jones, R. Kohnert, X. Li, S.C. Solomon, P. Chamberlin and A. Caspi, "Mission Overview and Early Operations of the Miniature X-ray Solar Spectrometer (MinXSS) CubeSat", 8th European CubeSat Conference, London England, Sep. 2016.
58. Palo, S.E. and D. Hegel, "XACT – High Performance Nano GN&C Technology", 8th European CubeSat Conference, London England, Sep. 2016.
59. Palo, S.E., A. Dahir, N. Rainville, J. Stark, N. Nell, C. Rouleau, A. Antunes de Sa and M. Woods, "QB50 US01 Challenger, The University of Colorado Boulder QB50 Constellation Satellite", 8th European CubeSat Conference, London England, Sep. 2016.
60. Mason, J.P, M.D. Baumgart, T.N. Woods, C. Downs, D. Hegel, B. Rogler, G. Stafford, S.C. Solomon, P. Chamberlin, A. Caspi, S.E. Palo, A. Jones, R. Kohnert, X. Li, C.S. Moore, and C. Rouleau, "On-Orbit Performance and the First Flight of the BCT XACT 3-axis ADCS", AIAA Small Satellite Conference Pre-conference CubeSat Workshop, Logan, UT, August 2016.
61. Loucks¹, D., S.E. Palo, M. Pilinski, G. Crowley, I. Azeem and A. Reynolds "High-Latitude GPS Scintillation from E Region Electron Density Gradient During the December 20-21, 2015 Geomagnetic Storm", CEDAR Meeting, Santa Fe, NM, June 2016.
62. Nguyen¹ V., S.E. Palo and R. Lieberman "Inter-annual Variability of Nonlinear Wave Coupling in the Space-Atmosphere Interaction Region", CEDAR Meeting, Santa Fe, NM, June 2016. - selected as the top student poster award in the MLT section of the CEDAR conference.
63. Nguyen¹ V., S.E. Palo, R. Lieberman, T. Immel and A. Maute "ENSO Effects on the Diurnal Tide in the MLT Region", CEDAR Meeting, Santa Fe, NM, June 2016.
64. Vaudrin, C. and S.E. Palo, "SDR for Specular Meteor Radar", Multistatic Meteor Radar Workshop, Kuhlungsborn, Germany, June 2016.

65. Vaudrin, C., S.E. Palo and J. Chau, "Complex Plane Specular Meteor Radar Interferometry", Multistatic Meteor Radar Workshop, Kuhlungsborn, Germany, June 2016.
66. Vaudrin, C. and S.E. Palo, "Multistatic Meteor Radar: Forward Scatter Modelling and Simulation", Multistatic Meteor Radar Workshop, Kuhlungsborn, Germany, June 2016.
67. Woods, T.N., A. Caspi, P. Chamberlin, A. Jones, R. Kohnert, X. Li, J. Mason, C. Moore, S. Palo, C. Rouleau and S. Solomon, "Mission Overview of the Miniature X-ray Solar Spectrometer (MinXSS) CubeSat", American Astronomical Society, SPD meeting #47, id.#8.16, Boulder, CO, May 2016.
68. Caspi, A., Woods, T.N., H. Warren, P. Chamberlin, A. Jones, J. Mason, J. McTiernan, C. Moore, S. Palo and S. Solomon, "Science Goals and First Light Analysis from the Miniature X-ray Solar Spectrometer (MinXSS) CubeSat", American Astronomical Society, SPD meeting #47, id.#3.06, Boulder, CO, May 2016.
69. Bradley¹, A.C., S.E. Palo, G. LoDolce, D. Weibel, D. Lawrence, and J. Maslanik, "Microbuoys in Arctic Sensing: novel instruments for low-cost and low-impact observing of the upper ocean", Arctic Observing Summit, Fairbanks, AK, 2016.
70. Palo, S., N. Rainville, A. Dahir, C. Rouleau, J. Stark, N. Nell, J. Fukushima and A. Antunes de Sa, "One of 50: Challenger, the University of Colorado Boulder QB50 Constellation Satellite", American Geophysical Union Fall Meeting, San Francisco, CA, Dec., 2015.
71. Nguyen¹, V., R. Lieberman, J.M. Forbes and S.E. Palo, "Addressing the Question of Large-Scale Nonlinear Wave Coupling in the Space-Atmosphere Interaction Region", American Geophysical Union Fall Meeting, San Francisco, CA, Dec., 2015. – **received best student poster award, only the top 3-5% of all student posters receive this designation.**
72. Rainville¹, N., S. Palo, K. Larson and S. Naik, "Development of a GNSS Volcano Ash Plume Detector", American Geophysical Union Fall Meeting, San Francisco, CA, Dec., 2015.
73. Bradley¹, A., S. Palo, and M. Steele "Trapped Heat and Cooling Processes in the Arctic Ocean Surface Mixed Layer", American Geophysical Union Fall Meeting, San Francisco, CA, Dec., 2015.
74. Lieberman, R., D. Riggan, D. Siskind, V. Nguyen, S. Palo, N., Mitchell, N. Livsey, G. Stober, S. Wilhelm, and C. Jacobi, "Observations of Secondary Waves Generated from Interaction Between the 2-Day Wave and the Migrating Diurnal Tide", American Geophysical Union Fall Meeting, San Francisco, CA, Dec., 2015.
75. Schiller¹, Q., X. Li, S. Palo, L. Blum, and D. Gerhardt, "The Colorado Student Space Weather Experiment: A successful student-run scientific spacecraft mission", American Geophysical Union Fall Meeting, San Francisco, CA, Dec., 2015.
76. deBoer, G., D. Lawrence, J. Elston, B. Argrow, S. Palo, N. Curry, W., Finamore, J., Mack, G., LoDolce, B. Schmid, C. Long, G. Bland, J. Maslanik, R-S., Gao, H. Telg, S. Semmer, G. Maclean, K. Ivey, T. Hock, B., Bartram, A., Bendure and M. Stachura, "Development and Deployment of Unmanned Aircraft Instrumentation for Measuring Quantities Related to Land Surface-Atmosphere Interactions", American Geophysical Union Fall Meeting, San Francisco, CA, Dec., 2015.
77. Palo, S.E. T.N. Woods, X. Li, J. Mason, R. Kohnert and C. Rouleau, "Space Weather CubeSat Projects at the University of Colorado Boulder", AIAA Rocky Mountain Symposium, Golden, CO, Nov., 2015.
78. Bradley¹, A.C, and S.E. Palo, "Temperature Evolution of the Upper Arctic Ocean Mixed Layer Prior to the Onset of Freeze-up", 9th Annual Earth System and Space Science Poster Conference, Boulder, CO, Nov., 2015.
79. Loucks¹, D., S.E. Palo, M. Pilinski and G. Crowley, "Polar Ionosphere Structure & High Latitude Scintillation Impacts from the March 17, 2013 Geomagnetic Storm", 9th Annual Earth System and Space Science Poster Conference, Boulder, CO, Nov., 2015.

80. Bradley¹, A.C, S.E. Palo, G. LoDolce, D. Weibel, and D.A. Lawrence, "Near-surface Temperature Gradients Detected by Microbuoys in the Arctic Ocean", Arctic Observing Open Science Meeting, Seattle, WA, Nov., 2015.
81. Bradley¹, A.C, and S.E. Palo, "Freeze-up in the Arctic Ocean: New Processes in Response to a Changing Climate" Graduate Climate Conference, Woods Hole, MA, Nov., 2015.
82. Bradley¹, A.C, and S.E. Palo, "Temperature Evolution of the Upper Arctic Ocean Mixed Layer Prior to the Onset of Freeze-up" Forum for Arctic Modeling and Observational Synthesis Workshop #4, Woods Hole, MA, Nov., 2015.
83. Vaudrin¹, C., and S.E. Palo, "Meteor Trail Diffusion and Numerical Modeling of the Ground Illumination Pattern". Seminar at the Leibniz-Institute of Atmospheric Physics (IAP). NSF-CNIC program. Kühlungsborn, Germany, Nov., 2015.
84. Nguyen¹, V., S.E. Palo, R.S. Lieberman, "Observations of Secondary Wave Manifestation Arising from DW1-QTDW Interaction", CEDAR Meeting, Seattle, WA, June 2015.
85. Loucks¹, D., S.E. Palo, M. Pilinski and G. Crowley, "Polar Ionosphere Structure & High Latitude Scintillation Impacts from the March 17, 2013 Geomagnetic Storm", CEDAR Meeting, Seattle, WA, June 2015.
86. Nguyen¹, V., S.E. Palo, R.S. Lieberman, "Observations of Secondary Wave Manifestation Arising from DW1-QTDW Interaction", CEDAR Meeting, Seattle, WA, June 2015.
87. Vaudrin¹, C., and S.E. Palo, "Initial Results from a Recent Multistatic Meteor Wind Radar Experiment", CEDAR Meeting, Seattle, WA, June 2015.
88. Palo, S.E., D.A. Lawrence, A. Bradley, G. LoDolce and D. Weibel, "Air Deployed Microbuoys (ADMB) and Self-Deployed Surface Sondes (SDSS): Tools for Conducting Polar Research" Polar Technology Conference, Denver, CO, Mar., 2015.
89. Vaudrin¹, C. and S.E. Palo, "The Multistatic Meteor Wind Radar: Motivations, System Design and Recent Results", Seminar at the Jet Propulsion Laboratory, Pasadena, CA, Feb., 2015.
90. Palo, S.E., "Interannual Variability of the Atmospheric Tides over South Pole from a Decade of Meteor Wind Observations", American Geophysical Union Fall Meeting, San Francisco, CA, Dec., 2014.
91. Palo, S.E., X. Li, T. Woods, and R. Kohnert, "University of Colorado CubeSat Student Projects as Successful Model for Teaching Students about Engineering Practices", American Geophysical Union Fall Meeting, San Francisco, CA, Dec., 2014.
92. Palo, S.E, D. O'Connor, E. DeVito, R. Kohnert, S. Altunc and G. Crum, "Development of an X-Band Transmitter for CubeSats", 6th European CubeSat Symposium, Estavayer-le-Lac, Switzerland, Oct., 2014.
93. Bradley¹, A., S.E. Palo, C. Zappa, G. LoDolce, D. Weibel and D. Lawrence, "Observations of Wind-Induced Motion in the Arctic Marginal Ice Zone", American Geophysical Union Fall Meeting, San Francisco, CA, Dec., 2014.
94. Tschudi, M., J. Maslanik, W. Emery, S. Palo, et al., "MIZOPEX – A UAS Arctic Campaign During Summer 2013", American Geophysical Union Fall Meeting, San Francisco, CA, Dec., 2014.
95. Nguyen¹, V., S.E. Palo and R. Lieberman, "Observations of Nonlinear Interaction Between Tides and Planetary Waves", 2014 University of Colorado Research Symposium, Boulder, CO, Nov., 2014.
96. Bradley¹, A.C., S.E. Palo, G. LoDolce, D. Weibel, and D. Lawrence, "Observations of Wind-Driven Processes in The Surface Layer Of The Marginal Ice Zone", Forum for Arctic Modeling and Observational Synthesis Workshop #3, Woods Hole, MA, Oct., 2014.
97. Nguyen¹, V., L. Chang, S.E. Palo and H-Liu, "Simulation of the 16-day wave in the stratosphere and mesosphere using TIME-GCM and MERRA", NSF CEDAR Workshop, Seattle, WA, Jun., 2014.

98. O'Connor, D., S.E. Palo, E. DeVito, R. Kohnert, G. Crum and S. Altunc, "Next Generation CubeSat Communication", Commercial and Government Responsive Access to Space Technology Exchange, Huntsville, AL, 2014.
99. Bradley¹, A.C., S.E. Palo, J. Maslanik, G. LoDolce, D. Weibel, and D.A. Lawrence, "Wind-Driven Processes in the Surface Layer of the Marginal Ice Zone", 44th International Arctic Workshop, Boulder, Colorado, Mar., 2014.
100. Palo, S.E., D. Gerhardt, X. Li, L. Blum, Q. Schiller and R. Kohnert, "One Year of On-Orbit Performance of the Colorado Student Space Weather Experiment", International Union of Radio Science National Meeting, Boulder, CO, Jan., 2014.
101. Vaudrin, C. and S.E. Palo, "Initial Results from a Forward-Scatter Meteor Wind Radar Experiment Based on the Colorado Software Defined Radar (COSRAD)", International Union of Radio Science National Meeting, Boulder, CO, Jan., 2014.
102. Nguyen¹, V., L.C. Chang, H. Liu and S.E. Palo, "Mechanisms Driving the Global and Seasonal Structure of the 16-day Planetary Wave", American Geophysical Union Fall Meeting, San Francisco, CA, Dec., 2013.
103. Bradley¹, A., S.E. Palo, S.L. Knuth, and J.J. Cassano, "UAS Observations of Polynya Wave Height and Surface Temperature During the September 2012 Terra Nova Bay, Antarctica Field Campaign", American Geophysical Union Fall Meeting, San Francisco, CA, Dec., 2013.
104. Palo, S.E., D. Weibel, D. Lawrence, G. LoDolce, A.C. Bradley, J. Adler, J. Maslanik and G. Walker, "First Results from UAS Deployed Ocean Sensor Systems during the 2013 MIZOPEX Campaign", American Geophysical Union Fall Meeting, San Francisco, CA, Dec., 2013.
105. Zappa, C., S. Brown, W.J. Emery, J. Adler, G.A. Wick, M. Steele, S.E. Palo, G. Walker and J.A. Maslanik, "Local Effects of Ice Floes on Skin Sea Surface Temperature in the Marginal Ice Zone from UAVs", American Geophysical Union Fall Meeting, San Francisco, CA, Dec., 2013.
106. Li, X., Q. Schiller, L. Blum, S. Califf, H. Zhao, A.N. Jaynes, W. Tu, D.L. Turner, D. Gerhardt, S.E. Palo, R. Selesnick, S.G. Kanekal, D.N. Baker, J.F. Fennell, J.B. Blake, M.D. Looper, G.D. Reeves and H. Spence, "Update on Science Results from CubeSat: Colorado Student Space Weather Experiment (CSSWE)" American Geophysical Union Fall Meeting, San Francisco, CA, Dec., 2013.
107. Bradley¹, A., and S.E. Palo, "UAS observations of Polynaya Wave Height and Surface Temperature during the September 2012 Terra Nova Bay Antarctica Field Campaign", 2013 University of Colorado Research Symposium, Boulder, CO, Nov., 2013.
108. Vaudrin¹, C., and S.E. Palo, "Ground Illumination Patterns from Specular Meteor Trail Scatter for Optimal Mutlistatic Meteor Wind Radar Receiver Ground Station Geometries", 2013 University of Colorado Research Symposium, Boulder, CO, Nov., 2013.
109. Gerhardt¹, D., S.E. Palo, X. Li, L. Blum, Q. Schiller and R. Kohnert, "The Colorado Student Space Weather Experiment (CSSWE) On-Orbit Performance", AIAA Small Satellite Conference, Logan, UT, Aug., 2013.
110. Chi-Kuang, C., L.C. Chang, S.E. Palo, Z-W Lin, "An Instrument Suite for the FORMOSAT-7/COSMIC-2 Micro-satellite Constellation", 10th Annual Asia Oceania Geosciences Society Meeting, Brisbane, Australia, Jun., 2013.
111. Palo, S.E. and C. Vaudrin, "Thoughts on Moving Meteor Science Forward", NSF CEDAR Workshop, Boulder, CO, Jun., 2013.
112. Nguyen¹, V. and S.E. Palo, "Transmission of Planetary Wave Effects to the Upper Atmosphere by Modulation of Turbulent Mixing", NSF CEDAR Workshop, Boulder, CO, Jun., 2013.
113. Nguyen¹, V. and S.E. Palo, "Is the Day-to-Day Variability of the Migrating Semidiurnal Tide Deterministic or Stochastic?", NSF CEDAR Workshop, Boulder, CO, Jun., 2013.

114. Vaudrin¹, C. and S.E. Palo, "Optimal Multistatic Specular Meteor Wind Radar Geometries", NSF CEDAR Workshop, Boulder, CO, Jun., 2013.
115. Palo, S.E., D. Gerhardt, X. Li, L. Blum, Q. Schiller and R. Kohnert, "On-Orbit Performance of the Colorado Student Space Weather Experiment", NSF CEDAR Workshop, Boulder, CO, Jun., 2013.
116. Palo, S.E., T. Woods, X. Li, J. Mason, M. Carton, A. Caspi, A. Jones, R. Kohnert and S. Solomon, "MinXSS: A Three Axis Stabilized CubeSat for Conducting Solar Physics", 5th European CubeSat Symposium, Brussels, Belgium, Jun., 2013.
117. Palo, S.E., D. Gerhardt, X. Li, L. Blum, Q. Schiller and R. Kohnert, "On-Orbit Performance of the Colorado Student Space Weather Experiment", 5th European CubeSat Symposium, Brussels, Belgium, Jun., 2013.
118. Palo, S.E., K.D. Kemble, M.D. Pilinski, B.L. Davis, L.E. Jasper, M. Sakaguchi, R.L. McNally, C.M. Cooke, B.T. Sander and C.J. Koehler, "The Wind and Temperature Spectrometer (WTS) and Accelerometer Suite on the DANDE Satellite", 5th European CubeSat Symposium, Brussels, Belgium, Jun., 2013.
119. Li, X., S.E. Palo, et al, "Telescope Measurements of Energetic Particles: from PET to REPT to REPTile", Caltech, Pasadena CA, Apr. 2013.
120. Li, X., S.E. Palo, et al, "Small Mission (CSSWE) – Big Impact on Space Weather Research", NOAA/SWPC, Boulder CO, Feb., 2013.
121. Pilinski, M., B. Argrow, S. Palo, and B. Bowman, "Semi-Empirical Satellite Accommodate Model (SESAM)", IMPACT workshop, Santa Fe, NM, Jan., 2013.
122. Vaudrin¹, C. and S.E. Palo, "A Meteor Wind Radar Measurement Campaign Using the Colorado Software Defined Radar with Meteor Trail Echoes Interpreted Under a Modern Diffusion Theory", International Union of Radio Science National Meeting, Boulder, CO, Jan., 2013.
123. Li, X., S.E. Palo, et al, "Our First CubeSat Mission: Concept to Reality and Impact", LASP, Boulder, CO, Jan., 2013.
124. Li, X., S.E. Palo, et al, "Colorado Student Space Weather Experiment (CSSWE) CubeSat Mission: A Success in Education, Engineering, and Science", NCAR/HAO Jan., 2013.
125. Palo, S.E., D. Lawrence, D. Weibel, G. LoDolce, S. Krist, I. Crocker and J. Maslanik, "UAV deployed sensor system for Arctic Ocean remote sensing", American Geophysical Union Fall Meeting, San Francisco, CA, Dec., 2012.
126. Li, X., S.E. Palo, R. Kohnert, D. Gerhardt, L.W. Blum, Q. Schiller, D.L. Turner, W. Tu, "First Results from the Colorado Student Space Weather Experiment (CSSWE): Differential Flux Measurements of Energetic Particles in a Highly Inclined Low Earth Orbit", American Geophysical Union Fall Meeting, San Francisco, CA, Dec., 2012.
127. Palo, S.E., "Atmospheric Tides in the Polar Region: An Example of Hemispheric Coupling", Polar Workshop, Durham, NH, Nov. 2012.
128. Williams, C.R., L. Bianco, P. Johnston, D. Law, S.E. Palo and C. Vaudrin, "Developing a Lower Boundary Layer Radar for Renewable Energy Research", CIRES IDP seminar, Nov., 2012.
129. Palo, S.E., "Variability of the Nonmigrating Semidiurnal Tide and Connection to the Polar Stratosphere", Mesosphere and Lower Thermosphere Workshop, Logan UT, Oct. 2012.
130. Chang, L., S.E. Palo, F. Herrero, K. Kemble, M. Pilinski, G. Crowley, and C-K. Chao, "Instrument suite for neutral and ion-drifts, equivalent temperatures and composition", Sixth FORMOSAT-3/COSMIC Data Users Workshop, Boulder, CO, Oct., 2012.
131. Nguyen¹, V. and S.E. Palo, "Estimating the Day-to-Day Variability of the Migrating Diurnal Tide through Satellite Observations", CEDAR workshop, Santa Fe, NM, Jun. 2012.

132. Vaudrin¹, C. and S.E. Palo, "A Hardware Description of the Colorado Software Defined Radar", CEDAR workshop, Santa Fe, NM, Jun. 2012.
133. Vaudrin¹, C. and S.E. Palo, "A Multistatic Common-volume Meteor Wind Radar Measurement Technique", CEDAR workshop, Santa Fe, NM, Jun. 2012.
134. Vaudrin¹, C. and S.E. Palo, "Colorado Software Defined Radar: Hardware, Results, Reconfigurability and Deployment", 13th International Workshop on Technical and Scientific Aspects of MST Radar, Kuhlungsborn, Germany, Mar. 2012.
135. Vaudrin¹, C. and S.E. Palo, "Colorado Software Defined Radar: Hardware, Results, Reconfigurability and Deployment", International Union of Radio Science National Meeting, Boulder, CO, Jan., 2012.
136. Palo, S.E., "Building a Digital Meteor Radar for Aeronomic Research", American Geophysical Union Fall Meeting, San Francisco, CA, Dec., 2011.
137. Pilinski¹, M., B. Argrow and S. Palo, "Relative-Density Anomalies below 200 km as Observed by Aerodynamic Drag on Orbiting Rocket Bodies: Preliminary Results", American Geophysical Union Fall Meeting, San Francisco, CA, Dec., 2011.
138. Palo, S.E. and F.E. Estante, "Connections between the nonmigrating semidiurnal tide over the South Pole and stationary planetary waves in the northern hemisphere", American Geophysical Union Fall Meeting, San Francisco, CA, Dec., 2011.
139. Close, S. A. Li, A. Kalman, N. Lee, S. Palo, and B. Twiggs "QB50: The American Effort in Cubesats", 2nd QB50 workshop, Brussels, Belgium, Jul. 2011.
140. Liu, A., S. Close, and S. Palo, "QB50: An International Network of CubeSats for Multi-Point, In-situ, Long-duration Measurements in the Lower-Thermosphere and Re-entry Research", CEDAR workshop, Boulder, CO, Jun. 2011.
141. Pilinski¹, M., S. Palo and B. Argrow, "Using Observed Aerodynamic Drag on Rocket Bodies to Infer Atmospheric Densities at Altitudes Below 200 km", CEDAR workshop, Boulder, CO, Jun. 2011.
142. Estante¹, F.E., and S.E. Palo, "Short-term variability of the s=1 nonmigrating semidiurnal tide over the South Pole due to coupling with Northern Hemisphere wave activity", CEDAR workshop, Boulder, CO, Jun. 2011.
143. Howe, S., S. Blair, S. Palo, J. Kanai, P. Rogers, G. Livesay, R. K. Stanfill and M. Paretto, "Capstone Design Hub: Building the Capstone Design Community", American Society of Engineering Educators Annual Conference, Vancouver, Canada, Jun., 2011.
144. Chang¹, L.C., J.-Y. Liu, and S.E. Palo, "Inter-annual observations of diurnal tidal components in SABER temperatures and COSMIC electron densities", 5th FORMOSAT-3/COSMIC Workshop 2011, Taiwan, April 2011.
145. Vaudrin¹, C. and S.E. Palo, "Data analysis, meteor trail echo phenomenology and a brief hardware overview of Aether: a data acquisition system and software meteor wind radar", International Union of Radio Science National Meeting, Boulder, CO, Jan., 2011.
146. P.-D. Pautet, M.J. Taylor, B.P. Williams, and S.E. Palo, "Joint Investigation of Mesospheric Gravity Wave Characteristics and Dynamics over South Pole Station (90°S) during the Austral Winter 2010", American Geophysical Union Fall Meeting, San Francisco, CA, Dec., 2010.
147. Chang¹ L., S.E. Palo, and H.L. Liu, "Nonlinear Interaction between the Migrating Diurnal Tide and the Quasi-Two Day Wave", American Geophysical Union Fall Meeting, San Francisco, CA, Dec., 2010.
148. Pilinski¹, M., B. Argrow and S. Palo, "Energy Accommodation Modeling and the Implications for Density Retrieval during the Recent Solar Minimum", NADIR: Neutral Atmosphere Density Interdisciplinary Research Workshop, Boulder, CO, Oct., 2010.

149. Papas, P., D. Munoz, M. Asheim, P. Moriarty and S. Palo, "Measurement of Aeroacoustic Noise Generated on a Wind Turbine Blade and Potential Mitigation Devices", CREW Symposium, Aug., 13, 2010.
150. Nallamothu¹, M., D. Turner, S. Palo and X. Li, "The Colorado Student Space Weather Experiment (CSSWE) Command and Data Handling System", CubeSat Developer's Workshop, Logan, UT, Aug., 2010.
151. Chandran¹, A., D.W. Rusch, S.E. Palo, A.W. Merkel, G.E. Thomas, and E.J., Jensen, "Atmospheric Gravity wave effects on polar mesospheric clouds: A comparison of numerical simulations from CARMA 2D with AIM observations", 38th COSPAR Scientific Assembly, Bremen, Germany, Jul., 2010.
152. Cornman, L., P. Axelrad, R.K. Goodrich, S.E. Palo, J. Burkert and E. Barlow, "Use of GPS/COSMIC Occultations to Analyze Turbulent Structures in the Atmosphere", 38th COSPAR Scientific Assembly, Bremen, Germany, Jul., 2010.
153. Palo, S.E., D. Gerhardt, and D. Murphy, "Variability of Short Period Lamb Waves Observed over Antarctica", 38th COSPAR Scientific Assembly, Bremen, Germany, Jul., 2010.
154. Chang¹, L., S.E. Palo, and H.L. Liu, "A Comparative Study of the Mechanisms of Migrating Diurnal Tidal Variability Due to Interaction with Propagating Planetary Waves", 38th COSPAR Scientific Assembly, Bremen, Germany, Jul., 2010.
155. Palo, S.E., X. Li, D. Turner, D. Gerhardt, V. Hoxie, R. Kohnert, and S. Batiste, "The Colorado Student Space Weather Experiment: A CubeSat for Space Physics", 38th COSPAR Scientific Assembly, Bremen, Germany, Jul., 2010.
156. Pilinski¹, M., B. Argrow, and S.E. Palo, "Refinements in the Semi-Empirical Accommodation Coefficient Model for Satellites", 38th COSPAR Scientific Assembly, Bremen, Germany, Jul., 2010.
157. Vaudrin¹, C. and S.E. Palo, "Hardware Overview and Initial Measurements of a FPGA based Digital Receiver", 38th COSPAR Scientific Assembly, Bremen, Germany, Jul., 2010.
158. Chang¹, L., S.E. Palo, and H.L. Liu, "A Comparative Study of Migrating Diurnal Tidal Variability Induced by Nonlinear Interactions with Propagating Planetary Waves", CEDAR workshop, Boulder, CO, June 2010.
159. Pilinski¹, M., B. Argrow, and S.E. Palo, "Small Satellite Approaches to Measuring Neutral Winds and Density", Small Satellite Systems & Services Symposium, Funchal, Maderia, Jun., 2010.
160. Vaudrin¹, C. and S.E. Palo, "Hardware Architecture and Initial Results from and FPGA Based Digital Receiver for Multistatic Meteor Measurements", Meteoroids 2010 Conference, Breckenridge, CO, May, 2010.
161. Maslanik, J., C. Fowler, I. Crocker, T. Dhakal, S. Palo, W. Emery, "Applications of Small Unmanned Aircraft Systems for Geophysical Observations in Polar Regions", George H. Born Symposium, Boulder, CO, May, 2010.
162. Gerhardt¹, D., S. Palo and X. Li, "Passive Magnetic Attitude Control for CubeSat Spacecraft", George H. Born Symposium, Boulder, CO, May, 2010.
163. Pilinski¹, M., K. Moe, S. Palo, B. Argrow, "Measuring Absolute Thermospheric Densities and Accommodation Coefficients using Paddlewheel Satellites: Past Findings, Present Uses, and Future Mission Concepts", George H. Born Symposium, Boulder, CO, May, 2010.
164. Pilinski¹, M., S.E. Palo, J.M. Forbes and B. Argrow, "Small Satellite Approaches to Measuring Neutral Winds and Density", C/NOFS Science Meeting, Breckenridge, CO, May, 2010.
165. Chang¹, L., S.E. Palo, H-L. Liu, T-W Fang and C. Lin, "Response of the Thermosphere and the Ionosphere to an Ultra Fast Kelvin Wave", C/NOFS Science Meeting, Breckenridge, CO, May, 2010.

166. Vaudrin¹, C. and S.E. Palo, "Initial Data Analysis from an FPGA Based Meteor Radar Digital Receiver", International Union of Radio Science National Meeting, Boulder, CO, Jan., 2010.
167. Palo, S.E., D. Gerhardt, and D. Murphy, "Seasonal and Interannual Variability of Short Period Lamb Waves Observed over South Pole", American Geophysical Union Fall Meeting, San Francisco, CA, Dec., 2009.
168. Pilinski¹, M., S.E. Palo, "DANDE: A Nanosatellite for Measuring Thermospheric Wind and Density", American Geophysical Union Fall Meeting, San Francisco, CA, Dec., 2009.
169. Chang¹, L., S.E. Palo, H.L. Liu and C.S. Lin "Impact of Upward Propagating Kelvin Waves on the Thermosphere During Solar Minimum", American Geophysical Union Fall Meeting, San Francisco, CA, Dec., 2009.
170. Chandran¹, A., D.W. Rusch, A.W. Merkel, S.E., Palo, G.E. Thomas, and E.J., Jensen, "Gravity wave effects on polar mesospheric clouds: A comparison of numerical simulations from CARMA 2D model with AIM observations", American Geophysical Union Fall Meeting, San Francisco, CA, Dec., 2009.
171. Croker¹, R.I., J.A. Maslanik, S.E. Palo, C. Fowler, J. Adler, U.C. Herzfeld, M.M. Fladeland, E.C. Weatherhead and M. Angier, "Performance assessment of a small LIDAR altimeter deployed on unmanned aircraft for glacier and sea ice surface topography profiling", American Geophysical Union Fall Meeting, San Francisco, CA, Dec., 2009.
172. Li, X., S.E., Palo, D.L. Turner, D. Gerhardt, T. Redick and J. Tao, "CubeSat: Colorado Student Space Weather Experiment", American Geophysical Union Fall Meeting, San Francisco, CA, Dec., 2009.
173. Burkert¹, J., P. Axelrad, L. Cornman, K. Goodrich, S. Palo, A. Weekley "Turbulence Estimation Techniques for COSMIC Occultation Data", Fourth FORMOSAT-3/COSMIC Data Users Workshop, Boulder, CO, Oct., 2009.
174. Thayer, J.P., J. Lei, L. Chang and S. Palo, "Geomagnetic Activity Driving a Multi-Day Response in the Thermosphere and Ionosphere", 2nd International High Energy Particle Precipitation in the Atmosphere (HEPPA) Workshop, Boulder, CO, Oct., 2009.
175. Chandran¹, A., D.W. Rusch, A.W. Merkel, S.E., Palo, G.E. Thomas, E.J., Jensen and M.J. Taylor, "Gravity Wave influences on the large-scale PMC occurrence variability: A study from PMC structures observed from the CIPS experiment on the AIM satellite.", The 9th International Workshop on Layered Phenomena in the Mesopause Region, Stockholm, Sweden, Jul., 2009.
176. Chang¹, L., J.P. Thayer, J. Lei and S.E. Palo, "Isolation of the Global MLT Thermal Response to Recurrent Geomagnetic Activity", CEDAR workshop, Santa Fe, NM, June 2009.
177. Vaudrin¹, C. and S.E. Palo, "An FPGA Based Digital Receiver for Meteor Radar Applications", CEDAR workshop, Santa Fe, NM, June 2009.
178. Chang¹, L., S.E. Palo and H.L. Liu, "Influence of an Ultra Fast Kelvin Wave in the Migrating Diurnal Tide", CEDAR workshop, Santa Fe, NM, June 2009.
179. Gerhardt¹, D., X. Li, S. Palo, D. Turner, T. Redick and J. Tao, "Colorado Student Space Weather Experiment: In-Situ Measurement of Solar Energetic Particles", CEDAR workshop, Santa Fe, NM, June 2009.
180. Chang¹, L., S.E. Palo and H.L. Liu, "Short-term Variation of the s=1 Nonmigrating Semidiurnal Tide During the 2002 Stratospheric Sudden Warming", CEDAR workshop, Santa Fe, NM, June 2009.
181. Vaudrin¹, C. and S.E. Palo, "Overview and Initial Results of a FPGA Based Digital Receiver for Meteor Radar Applications", 12th MST Workshop, London, Ontario, May 2009.
182. Palo, S.E. "Parameter Estimation and Error Analysis for Meteor Radar Signals", 12th MST Workshop, London, Ontario, May 2009.
183. Vaudrin¹, C. and S.E. Palo, "Overview and Initial Results of a FPGA Based Digital Receiver for Meteor Radar Applications", International Union of Radio Science National Meeting, Boulder, CO, Jan. 2009.

184. Palo, S.E., "Understanding Short Term Variations of the Migrating Diurnal Tide", American Geophysical Union Fall Meeting, San Francisco, CA, Dec., 2008.
185. Chang¹, L.C., S.E., Palo, and H., Liu, "Influence of an Ultra Fast Kelvin Wave on the Migrating Diurnal Tide", American Geophysical Union Fall Meeting, San Francisco, CA, Dec., 2008.
186. Chandran¹, A., D.W. Rusch, A.W. Merkel, S.E., Palo, G.E. Thomas, and M.J., Taylor, "Longitudinal variability in PMC structures observed from the CIPS experiment on the AIM spacecraft: Impact on PMC occurrence frequency and brightness", American Geophysical Union Fall Meeting, San Francisco, CA, Dec., 2008.
187. Merkel, A.W., D.W., Rusch, G.E. Thomas, S.E., Palo, S.M. Bailey, J.M. Russell, M. Hervig and A., Chandran, "Longitudinal variability of Polar Mesospheric Cloud (PMC) albedo and frequency from the Cloud Imaging and Particle Size Experiment: Comparison of the 2007 and 2008 Northern Hemisphere cloud seasons", American Geophysical Union Fall Meeting, San Francisco, CA, Dec., 2008.
188. Simley¹, E., P. Moriarty, S. Palo, "Development of an Acoustic Array for Wind Turbine Analysis", Energy Initiative Symposium, University of Colorado, Boulder, Nov., 2008.
189. Palo, S.E., "Day-to-Day Variability of the Migrating Diurnal Tide", 37th COSPAR Scientific Assembly, Montreal, CA, Jul., 2008.
190. Pilinski¹, M., and S.E. Palo, "Multi-Instrument Data Analysis of Thermospheric Density and Winds", 37th COSPAR Scientific Assembly, Montreal, CA, Jul., 2008.
191. Johnson¹, K. and S.E. Palo, D. Janches and J. Fentzke, "A Numerical Model for VHF Meteor Radar Systems", 37th COSPAR Scientific Assembly, Montreal, CA, Jul., 2008.
192. Chang¹, L.C., S.E. Palo, H. Liu and the CAWSES Tidal Team, "Comparison of General Circulation Models and Ground-Based Observations during the Equinox CAWSES Tidal Campaigns", 37th COSPAR Scientific Assembly, Montreal, CA, Jul., 2008.
193. Lau, E.M, X. Zhang, and S.E. Palo, "Correlation Between the Summer Hemisphere Non-Migrating Semidiurnal Tide at the South Pole and the Winter Hemisphere Stationary Wave One", 37th COSPAR Scientific Assembly, Montreal, CA, Jul., 2008.
194. Janches, D. J.T. Fentzke, K. Johnson, S.E. Palo, M. Horany, A. Poppe and D. James, "The micrometeoritic input function in the upper atmosphere. A comparison between model predictions and HPLA and meteor radars observations and AIM-CDE dust detections", 37th COSPAR Scientific Assembly, Montreal, CA, Jul., 2008.
195. Palo, S.E., "Planetary Wave Coupling of the Polar Winter Atmosphere from the Tropopause to the Thermosphere", Scientific Commission on Antarctic Research Open Science Conference, St. Petersburg, Russia, July 2008.
196. Vincent, R.A., D.J. Murphy, T. Aso, D.C. Fritts, R.E. Hibbins, A.J. McDonald, N.A. Makarov, N.J. Mitchell, E. Merzlyakov, S.E. Palo, Yu. I. Portnyagin, D.M. Riggan, D.J. Sandford, M. Tsutsumi, "Observations of Mesosphere and Lower Thermosphere Tides Using the Antarctic Radar Network", Scientific Commission on Antarctic Research Open Science Conference, St. Petersburg, Russia, July 2008.
197. Pilinski¹, M., S.E. Palo and F. Hererro, "Wind and Temperature Spectrometer", CEDAR workshop, Midway, UT, June 2008.
198. Chang¹, L.C., S.E. Palo, and H. Liu, "Short-term Variation of the s=1 Nonmigrating Semidiurnal Tide During the 2002 Sudden Stratospheric Warming", CEDAR workshop, Midway, UT, June 2008.
199. Vaudrin¹, C.V., and S.E. Palo, "A Multi-Channel FPGA Based High Speed Digital Receiver for Meteor Radar Applications, Midway, UT, June 2008.
200. Pilinski¹, M., and S.E. Palo, "Analysis of a Novel Approach for Determining Atmospheric Density from Satellite Drag", CEDAR workshop, Midway, UT, June 2008.

201. Iimura¹, H., S.E. Palo, Q. Wu, T.L. Killeen, S.C. Solomon and W.R. Skinner, "Comparisons of Nonmigrating Semidiurnal Tide over Antarctica and Arctic from Wind Measurements by TIMED Doppler Interferometer", CEDAR workshop, Midway, UT, June 2008.
202. Chandran¹, A., D. Rusch, S.E. Palo, G.E. Thomas, and M. Taylor, "Gravity waves observations from PMC's at the summer polar mesosphere from the CIPS experiment on the AIM Spacecraft", CEDAR workshop, Midway, UT, June 2008.
203. Lau, E.M., S. de La Pena, J.M. Avery, and S.E. Palo, "The Effects of Meteor Radar Wavelength on the Retrieval of Atmospheric Parameters in the MLT", CEDAR workshop, Midway, UT, June 2008.
204. Chandran¹, A., D. Rusch, S.E. Palo, G.E. Thomas, and M. Taylor, "Inter-hemispheric comparison of Gravity Waves observed in PMC's from the CIPS experiment on board the AIM Spacecraft", American Geophysical Union Spring Meeting, Ft. Lauderdale, FL, May., 2008.
205. Vaudrin¹, C. and S.E. Palo, "A Multi-Channel FPGA Based High Speed Digital Receiver: Development and Applications", RECUV Research Symposium, Boulder, CO, Apr., 2008.
206. Kang¹, C. and S.E. Palo, "A Detailed Error Analysis for Meteor Radar Systems: Evaluation of the COBRA Meteor Radar Observations during 2005 and 2006", International Union of Radio Science National Meeting, Boulder, CO, Jan. 2008.
207. Johnson¹, K. and S.E. Palo, D. Janches and J. Fentzke, "A Numerical Model for VHF Meteor Radar Systems", International Union of Radio Science National Meeting, Boulder, CO, Jan. 2008.
208. Lau, E.M., X. Zhang, and S.E. Palo, "Correlation analysis of the westward-propagating semidiurnal tide with wave number one at the South Pole and planetary waves with wave number one in the opposite hemisphere", International Union of Radio Science National Meeting, Boulder, CO, Jan. 2008.
209. Chang¹, L.C., S. Palo, J. Forbes, X. Zhang, J. Bean and H. Liu, "On the Existence and Excitation of Eastward Propagating Quasi-Two Day Waves in the MLT", American Geophysical Union Fall Meeting, San Francisco, CA, Dec., 2007.
210. Chandran¹, A., D. Rusch, C. Randall and S. Palo, "Gravity Wave Observations from the Cloud Imaging and Particle Size (CIPS) Experiment on the Aeronomy of Ice in the Mesosphere (AIM) Spacecraft", American Geophysical Union Fall Meeting, San Francisco, CA, Dec., 2007.
211. Pilinski¹, M., J. Forbes, M. Grusin, C. Koehler, and S. Palo, "An Innovative Low-Cost Program for Neutral Density and Wind Research with Small Satellites", American Geophysical Union Fall Meeting, San Francisco, CA, Dec., 2007.
212. Sternovsky, Z., S.E. Palo, et al., "Impact Ionization Mass Spectrometer Instrument Development for Cosmic Dust Particles", American Geophysical Union Fall Meeting, San Francisco, CA, Dec., 2007.
213. Forbes, J.M., Z. Zhang, S. E. Palo, J.M. Russell, C. Mertens and M. Mlynczak, "Tidal Variability in the Ionospheric Dynamo Region", TIMED science working group meeting, Boulder, CO, Sep. 2007.
214. Iimura¹, H., S.E. Palo, Q. Wu, T.L. Killeen and S.C. Solomon, "Structure of the Summer Non-Migrating Semidiurnal Tide over the Arctic Determined from TIDI Wind Observations", TIMED science working group meeting, Boulder, CO, Sep. 2007.
215. Chang¹, L.C., S.E. Palo, and X. Zhang, "Eastward Propagating Quasi-Two Day Waves in the MLT Region", TIMED science working group meeting, Boulder, CO, Sep. 2007.
216. Chang¹, L.C., S.E. Palo, and X. Zhang, "On the Potential for Diurnal Tide / 2 Day Wave Interactions during the September 2005 Tidal Campaign", CAWSES Tidal workshop, Fredericton, Canada, August 2007.
217. Murphy, D., T. Aso, M. Tsutsumi, D. Fritts, D. Riggan, M. Jarvis, A. McDonald, S. Palo, K. Iimura, and R. Vincent, "Non-migrating Tides Above Antarctica and Their Variation on Short and Long Time Scales", XXIV General Assembly of the IUGG, Perugia, Italy, Jul. 2007.

218. Chang¹, L.C., J.D. Bean, S.E. Palo, X. Zhang, and J.M. Forbes, "Short-Term Variability in the Migrating Diurnal Tide and Eastward 2-Day Waves", CEDAR workshop, Santa Fe, NM, June 2007.
219. Kang¹, C., and S.E. Palo, "A Detailed Error Analysis for Meteor Radar Systems", CEDAR workshop, Santa Fe, NM, June 2007.
220. Pilinski¹, M., S.E. Palo, M. Grusin, C. Koehler, and J. Forbes, "Drag and Atmospheric Neutral Density Explorer: A Low-Cost Small-Satellite Program for Neutral Density and Wind Research", CEDAR workshop, Santa Fe, NM, June 2007.
221. Chang¹, L.C., S.E. Palo and J. Richter, "Planetary Wave Induced Migrating Diurnal Tidal Variability in WACCM3", CEDAR workshop, Santa Fe, NM, June 2007.
222. Johnson¹, K.M., and S.E. Palo, "A Numerical Model for VHF Meteor Radars, CEDAR workshop", Santa Fe, NM, June 2007.
223. Bean¹, J.D., S.E. Palo, L.C. Chang, X. Zhang and J.M. Forbes, "Excitation of Eastward 2-Day Waves in the Southern Hemisphere Winter Mesosphere", CEDAR workshop, Santa Fe, NM, June 2007.
224. Chandran¹, A., D. Rusch, C. Randall and S.E. Palo, "Gravity Wave Observations from OMI Rayleigh Scatter Measurements", CEDAR workshop, Santa Fe, NM, June 2007.
225. Palo, S.E., "A Hands-on Model for Teaching Space Hardware Design", NSF Small Satellite Workshop, Arlington, VA, May, 2007.
226. Sternovsky, Z., S. Palo, X. Li, M. McGrath, and M. Pilinski, "Development of Space Missions and Instruments Through Education", NSF Small Satellite Workshop, Arlington, VA, May, 2007.
227. Pilinski¹, M., M. Grusin, C. Koehler, J. Forbes and S. Palo, "Drag and Atmospheric Neutral Density Explorer: A Low-Cost Small-Satellite Program for Neutral Density and Wind Research", NSF Small Satellite Workshop, Arlington, VA, May, 2007.
228. Palo, S.E., "A Model for Industry-Sponsored Student Projects", RECUV Research Symposium, Boulder, CO, Mar., 2007.
229. Smith¹, L.A., Palo, S.E., J. Maslanik and C. Fowler "Sea Ice Freeboard Roughness and Topography from UAV Laser Profilometry, Satellite and Surface Observations: Update", RECUV Research Symposium, Boulder, CO, Mar., 2007.
230. Lau, E.M., S.E. Palo, S.K. Avery, J.P. Avery, and N.A. Makarov, "The Nonmigrating Tide with Zonal Wavenumber One Observed Over South Pole and its Relationship with the Stationary Planetary Wave with Zonal Wavenumber One", American Geophysical Union Fall Meeting, San Francisco, CA, Dec., 2006.
231. Holt, J.M., L.P. Goncharenko, W. Rideout, and S. Palo, "The Madrigal Virtual Observatory – A Fabric for Serving Both Incoherent Scatter and MST Radar Data to the CAWSES Science Community", American Geophysical Union Fall Meeting, San Francisco, CA, Dec., 2006.
232. Lau, E.M., S.K. Avery, J.P. Avery, S.E. Palo, D. Janches, R. Schafer and N. Makarov, "Measurements of the Meteor Distributions and Mesosphere-Lower Thermosphere Wind Field at the South Pole", 11th International Workshop on Technical and Scientific Aspects of MST Radar, Gadanki, India, Dec., 2006.
233. Palo, S.E., H. Iimura, J.M. Forbes, E.M. Lau, J.P. Avery, S.K. Avery, N.A. Makarov, Yu.I. Portnyagin and E.G. Merzlyakov, "Phase Progression of the Atmospheric Tides Over South Pole", 36th COSPAR Scientific Assembly, Beijing, China, Jul., 2006.
234. Janches, D., A. Chandran, S.E. Palo C. Heinselman, J.L. Chau, and R. Woodman, "Modeling the Micrometeor Input Function in the Upper Atmosphere using HPLA Radars", 36th COSPAR Scientific Assembly, Beijing, China, Jul., 2006.

235. Li, T., C.Y. She, S.E. Palo, Q. Wu, H. Liu, and M. Salby, "Coordinated Lidar and TIMED Observations of the Quasi-Two-Day Wave during August 2002-2004 and Possible Quasi-Biennial Oscillation Influence", 36th COSPAR Scientific Assembly, Beijing, China, Jul., 2006.
236. Iimura¹, H., S.E. Palo, J.M. Forbes, E.M. Lau, S.K. Avery, J.P. Avery, Yu.I. Portnyagin, N.A. Makarov, E.G. Merzlyakov, A.J.G. Baumgaertner, A.J. McDonald, D.M. Riggin, D.C. Fritts, T. Aso, M. Tsutsumi, R.A. Vincent, D.J. Murphy and N. Mitchell, "An Intercomparison of Atmospheric Tidal Oscillations in the Horizontal Wind Field Observed over Antarctica", 36th COSPAR Scientific Assembly, Beijing, China, Jul., 2006.
237. Lau, E., H. Iimura, S. Palo, A. Avery, J. Avery, C. Kang, N. Makarov, "An Intercomparison of Meteor Radar Measurements using Two Different Processing Systems", 36th COSPAR Scientific Assembly, Beijing, China, Jul., 2006.
238. Lau, E., S. Palo, A. Avery, J. Avery, H. Iimura, N. Makarov, "The vertical structure and temporal variability of the atmospheric tides over South Pole", 36th COSPAR Scientific Assembly, Beijing, China, Jul., 2006.
239. Zhang, X., J.M. Forbes, S.E. Palo, J.M. Russell, C.J. Mertens, and M. Mlynczak, "Deriving MLT Tides Based on Observations from a Slowly-Precessing Satellite: A Comparison of Methods", 36th COSPAR Scientific Assembly, Beijing, China, Jul., 2006.
240. Chang¹, L., S.E. Palo, M. Hagan, J. Richter, and R. Garcia, "Structure of the Migrating Diurnal Tide in the Whole Atmosphere Community Climate Model (WACCM)", 36th COSPAR Scientific Assembly, Beijing, China, Jul., 2006.
241. Kang¹, C., and S.E. Palo, "An Intercomparison of Interferometric Meteor Radar Calibration Techniques", 36th COSPAR Scientific Assembly, Beijing, China, Jul., 2006.
242. Kang¹, C., and S.E. Palo, "A MATLAB-Based Planar Array Design Assistant Package with Applications to Meteor Radar Systems", 36th COSPAR Scientific Assembly, Beijing, China, Jul., 2006.
243. Palo, S.E., H. Iimura, D.J. Murphy, R.A. Vincent, D.M. Riggin, D.C. Fritts, M. Tsutsumi, T. Aso, A.J. McDonald, A.J.G. Baumgaertner, N.J. Mitchell, J.M. Forbes, E.M. Lau, S.K. Avery, J.P. Avery, Yu.I. Portnyagin, N.A. Makarov, E.G. Merzlyakov, and R.E. Hibbins, "ICESTAR: Vertical Coupling of the Atmosphere over Antarctica via Atmospheric Tides", 29th International Meeting of the Scientific Commission on Antarctic Research, Hobart, Tasmania, Jul, 2006.
244. Riggin, D.M., R.S. Lieberman, D.C. Fritts, S.E. Palo and H. Iimura, "Observations of the Semidiurnal Tide at Polar Latitudes with Satellite Sensors and Mesospheric Radars", 29th International Meeting of the Scientific Commission on Antarctic Research, Hobart, Tasmania, Jul, 2006.
245. Rochester¹, L. and S.E. Palo, "A Digital Receiver for Meteor Radar Applications", CEDAR workshop, Santa Fe, NM, June 2006.
246. Palo, S.E., "Motivation for Long-Duration ISR Runs: Tidal Variability in the Thermosphere and Planetary Waves", CEDAR workshop, Santa Fe, NM, June 2006.
247. Palo, S.E., X. Zhang, J.M. Forbes, J.M. Russell, M. Mlynczak, and C. Mertens, "An Eastward Propagating Two-Day Wave: Evidence for Nonlinear Coupling between the Two-Day Wave and the Diurnal Tide, CEDAR workshop, Santa Fe, NM, June 2006.
248. Kang¹, C., and S.E. Palo, "Planar Array Design in Meteor Radar Systems", CEDAR workshop, Santa Fe, NM, June 2006.
249. Chandran¹, A., D. Janches, and S.E. Palo, "Modeling the Meteoric Mass Deposition in the Upper Atmosphere", CEDAR workshop, Santa Fe, NM, June 2006.
250. Chang¹, L., S.E. Palo, M. Hagan, J. Richter, R. Garcia, D. Riggin and D. Fritts "Structure of the Migrating Diurnal Tide in WACCM", CEDAR workshop, Santa Fe, NM, June 2006.

251. Kang¹, C., and S.E. Palo, "An Intercomparison of Interferometric Meteor Radar Calibration Techniques", CEDAR workshop, Santa Fe, NM, June 2006.
252. Thomas, G.E., M. Rapp, S.E. Palo, M. DeLand, and A. Baumgartner, "Long-Term Variations of PMC Brightness and Occurrence Frequency: Are They Cause by Changes in Atmospheric Tides?", American Geophysical Union Spring Meeting, Baltimore, MD, May, 2006.
253. Merkel¹, A.W., R.R. Garcia, S.M. Bailey, S.E. Palo, G.E. Thomas, and D.W. Rusch, "Dynamical properties of polar mesospheric clouds as observed by SNOE linked to the mesospheric temperature as observed by SABER", American Geophysical Union Spring Meeting, Baltimore, MD, May, 2006.
254. Williams¹, A.D. and S.E. Palo, "Forced Air Convection Thermal Switch Concept for Responsive Space Missions", 9th AIAA/ASME Joint Thermophysics and Heat Transfer Conference, San Francisco, CA, Jun., 2006.
255. Williams¹, A.D. and S.E. Palo, "Issues and Implications of the Thermal Control System on the Six Day Spacecraft", 4th Responsive Space Conference, Los Angeles, CA, Apr., 2006.
256. Williams¹, A.D. and S.E. Palo, "A Comparison of Thermal Management Design Using Thermal Switches to Traditional Design Approaches with Application to Responsive Space Missions", 4th International Energy Conversion Engineering Conference and Exhibit, San Diego, CA, Jun., 2006.
257. Kang¹, C. and Palo, S. E., "Meteor array geometry performance based on the Cramer-Rao bound", International Union of Radio Science National Meeting, Boulder, CO, Jan. 2006.
258. Lau, E.M., H. Iimura S.K. Avery, J.P. Avery, S.E. Palo and N.A. Makarov, "Comparison of tidal results obtained with meteor radars with non-interferometric and interferometric capabilities", International Union of Radio Science National Meeting, Boulder, CO, Jan. 2006.
259. Palo, S.E., H. Iimura, J.M. Forbes, E.M. Lau, J.M. Avery, S.K. Avery, N.A. Makarov, Yu. I. Portnyagin and E.G. Merzlyakov, "Seasonal and interannual variability of the atmospheric tides observed over South Pole", American Geophysical Union Fall Meeting, San Francisco, CA, Dec., 2005.
260. Forbes, J.M., S.E. Palo, J.M. Russell, C.J. Mertens, and M. Mlynczak, "Troposphere-Thermosphere planetary wave coupling during the 2002 southern hemisphere pre-stratwarm period," American Geophysical Union Fall Meeting, San Francisco, CA, Dec., 2005.
261. Li, T., C. She, S.E. Palo, and Q. Wu, "Coordinated Lidar and TIMED observations of the quasi two-day wave during August 2002-2004 and possible quasi-biennial oscillation influence", American Geophysical Union Fall Meeting, San Francisco, CA, Dec., 2005.
262. Lau, E.M., S.K. Avery, J.P. Avery, D. Janches, S.E. Palo and N.A. Makarov, "Measurements of the meteor distribution and mesosphere-lower thermosphere wind field at the South Pole", 28th International Union of Radio Scientists General Assembly, New Delhi, India, Oct., 2005.
263. Palo, S.E. and C. Kang, "Estimation of meteor radar parameters for underdense VHF echoes", Workshop on Antarctic Dynamics, Hobart, Tasmania, Sep., 2005.
264. Iimura¹, H., S.E. Palo, N.A. Makarov, et al., "Comparison of 2004 South Pole winds measured by meteor radar and TIDI", Workshop on Antarctic Dynamics, Hobart, Tasmania, Sep., 2005.
265. Iimura¹, H., S.E. Palo, J.M. Forbes, et al., "Comparisons of monthly diurnal and semidiurnal tides over the Antarctic region", Workshop on Antarctic Dynamics, Hobart, Tasmania, Sep., 2005.
266. Lau, E., S. Avery, J. Avery, S. Palo and H. Iimura, "A synthesis of the observed Antarctic mesospheric tidal wind field", 10th Scientific Assembly of IAGA, Toulouse France, Jul. 2005.
267. Lau, E., S. Avery, J. Avery, and S. Palo, "Meridional wind field tides observed at the South Pole using a VHF interferometric meteor radar", 10th Scientific Assembly of IAGA, Toulouse France, Jul. 2005.
268. Palo, S.E., X. Zhang, J.M. Forbes, G. Burns, P. Espy, J.M. Russell, M. Mlynczak and C. Mertens, "Southern hemisphere planetary wave evolution and comparison with ground-based observations during winter 2002", CEDAR workshop, Santa Fe, NM, June 2005.

269. Chang¹, L., S. E. Palo, M.E. Hagan, Y. Beres, and R. Garcia, "Mean structure and variability of the diurnal tide in the NCAR whole atmosphere community climate model", CEDAR workshop, Santa Fe, NM, June 2005.
270. Iimura¹, H., S.E. Palo and N. Makarov, "Comparison of meteor radar wind measurement at Barrow and Dixon Island", CEDAR workshop, Santa Fe, NM, June 2005.
271. Zhang, X., J.M. Forbes, M.E. Hagan, S.E. Palo, J. Russell, C.J. Mertens, and M. Mlynczak, "A climatology of tidal temperatures from TIMED/SABER", CEDAR workshop, Santa Fe, NM, June 2005.
272. Kang¹, C. and S.E. Palo, "Detection of VHF meteors", CEDAR workshop, Santa Fe, NM, June 2005.
273. Lau¹, E.M., S.K. Avery, J.P. Avery, D. Janches and S.E. Palo, "Meridional winds and tides in the MLT over the South Pole measured with and interferometric meteor radar", CEDAR workshop, Santa Fe, NM, June 2005.
274. Lau¹, E.M., S.K. Avery, J.P. Avery and S.E. Palo, "The temporal and vertical structure of the diurnal and semidiurnal tides in the MLT over the South Pole measured with an interferometric meteor radar", CEDAR workshop, Santa Fe, NM, June 2005.
275. Kozyra, J.U., G. Crowley, B.A. Emery, X.H. Fang, M. Hagan, G. Lu, M. Mlynczak, R.J. Niciejewski, S.E. Palo, L.J. Paxton, J.M. Russell, S.C. Solomon, W. Skinner, Q. Wu, and J-H. Yee, "Atmospheric effects of coronal holes and powerful high-speed solar wind streams in 2003 observed by the TIMED spacecraft", American Geophysical Union Spring Meeting, New Orleans, LA, May, 2005.
276. Talaat, E.R., J. Yee, R. DeMajistre, H. Kil, Y. Zhang, T. Sotirelis, A. Christensen, S. Palo, I. Azeem, M. Hairston, D. Smith, and D. Bilitza, "The climatology of the quiet nighttime low-latitude ionosphere", American Geophysical Union Spring Meeting, New Orleans, LA, May, 2005.
277. Janches, D., J.L. Chau, S.E. Palo, S.K. Avery, J.P. Avery, and E.M. Lau, "Modeling the micrometeor influx into the mesosphere/lower thermosphere using radar measurements", European Geophysical Society meeting, Vienna, Austria, Apr., 2005.
278. Palo, S. E. X. Zhang, J.M. Forbes, G. Burns, P. Espy, J.M. Russell, M. Mlynczak and C. Mertens, "Southern hemisphere planetary wave evolutions and comparison with ground-based observations during winter 2002", TIMED science working group meeting, Columbia, MD, Apr. 2005.
279. Palo, S. E. and C. Kang, "Estimation of Meteor Radar Parameters", International Union of Radio Science National Meeting, Boulder, Jan. 2005.
280. Lau, E.M., S.K. Avery, J.P. Avery, D. Janches, S.E. Palo, and N.A. Makarov, "Characteristics of the Meteor Distribution and Wind Field over the Geographic South Pole using and Interferometric Meteor Radar", International Union of Radio Science National Meeting, Boulder, Jan. 2005.
281. Janches, D., J.L. Chau, S.E. Palo, S.K. Avery, J.P. Avery, and E.M. Lau, "Understanding the Near-Earth Micrometeor Environment using Radar Measurements", International Union of Radio Science National Meeting, Boulder, Jan. 2005.
282. Palo, S.E., X. Zhang, J.M. Forbes, J. Russell, M. Mlynczak, C. Mertens, T. Killeen, S. Solomon, Q. Wu, R.A. Vincent, D. Murphy, D. Riggan, T. Nakamura and T. Tsuda, "Coordinated Ground and Space Based Observations of the Quasi Two-Day Wave in January 2004", American Geophysical Union Fall Meeting, San Francisco, CA, Dec., 2004.
283. Janches, D., S.E. Palo, E.M. Lau, S.K. Avery, J.P. Avery, S. de la Pena, and N.A. Makarov, "Diurnal and seasonal variability of the meteoric flux at South Pole measured with radars", Meteoroids 2004 conference, London, Ontario, Aug. 2004.
284. Palo, S.E., H. Iimura, J.P. Avery, N.A. Makarov, S.K. Avery, Yu. I. Portnyagin, J.M. Forbes, E. Merzlyakov, T.A. Valentic, E.M. Lau, and D. Janches, "Large scale dynamical structure measured over the South Pole 2001-2003", 35th Assembly of the Committee on Space Research, Paris, France, July 2004.

285. Palo, S.E., H. Iimura, Q. Wu, J.P. Avery, N.A. Makarov, S.K. Avery, Yu. I. Portnyagin, J.M. Forbes, E. Merzlyakov, T.A. Valentic, E.M. Lau, and D. Janches, "A comparison of mesospheric winds measured over the South Pole", 35th Assembly of the Committee on Space Research, Paris, France, July 2004.
286. Kang¹, C. and S.E. Palo, "Frequency and damping factor estimator for meteor radar signals", CEDAR workshop, Santa Fe, NM, June 2004.
287. Iimura¹, H., S. Palo and Q. Wu, "Validation of a new meteor radar system at the South Pole", CEDAR workshop, Santa Fe, NM, June 2004.
288. Lau¹, E.M., D. Janches, S.K. Avery, J.P. Avery, S.E. Palo and N.A. Makarov, "Interferometric meteor observations at South Pole", CEDAR workshop, Santa Fe, NM, June 2004.
289. Forbes, J.M., J. Russell, X. Zhang, C.J. Mertens, S.E. Palo, and M. Mlynczak, "Nonmigrating Tides as Measured by the SABER Instrument on TIMED", American Geophysical Union Meeting, Montreal, Canada, May, 2004.
290. Talaat, E.R., R. Demajistre, J. Yee, L.J. Paxton, G. Crowley, S.E. Palo, A.B. Christensen, I. Azeem, R. Roble, H. Kil, and C. Hackert, "Observational and Modeling Analysis of the Coupling Between Neutral Winds and the Low-Latitude Ionosphere, American Geophysical Union Meeting, Montreal, Canada, May, 2004.
291. Palo, S.E., J. Russell, M. Mlynczak, C.J. Mertens, T. Mannucci and the JPL GPS Earth Observatory Team, "An intercomparison of tropospheric and stratospheric temperatures measured by SABER and GPS", TIMED Science Working Group meeting, Applied Physics Lab, Laurel, MD, Mar. 2004.
292. Palo, S.E., H. Iimura, Q. Wu, the South Pole Meteor Radar Team and the TIDI Team, "A comparison of mesospheric winds measured over the South Pole", TIMED Science Working Group meeting, Applied Physics Lab Laurel, MD, Mar. 2004.
293. Palo, S.E., and N.A. Makarov, "A new meteor radar system in Barrow AK", Fall AGU meeting, San Francisco, Dec. 2003.
294. Palo, S.E., "An update on TIMED/CEDAR studies", TIMED Science Working Group meeting, Daytona Beach FL, Sep. 2003.
295. Palo, S.E., J. Russell, N.J. Mitchell, J.M. Forbes, X. Zhang, M. Mlynczak, C.J. Mertens, and R. Garcia, "Characteristics of a 6-8 day planetary waves during April 2002", Joint European Geophysical Society and American Geophysical Union Meeting, Nice, France, April 2003.
296. Forbes, J.M., J. Russell, X. Zhang, S. Miyahara, S. Palo, S. Miyoshi, M. Mlynczak, C.J. Mertens, and R. Garcia, "Nonmigrating tides as measured by the SABER instrument on TIMED during April-May 2002", TIMED science working group meeting, Applied Physics Laboratory, Laurel, MD, Feb. 2003.
297. Palo, S.E., J. Russell, N.J. Mitchell, J.M. Forbes, X. Zhang, M. Mlynczak, C.J. Mertens, and R. Garcia, "Characteristics of a 6-8 day planetary waves during April 2002", TIMED science working group meeting, Applied Physics Laboratory, Laurel, MD, Feb. 2003.
298. Avery, J.P., S.K. Avery, and S.E. Palo, "South Pole meteor radar status", TIMED science working group meeting, Applied Physics Laboratory, Laurel, MD, Feb. 2003.
299. Palo, S.E., S.M. Azeem, and X. Zhang, "A network of ground-based radar measurements supporting CEDAR/TIMED", American Geophysical Union Meeting, San Francisco CA. Dec. 2002.
300. Palo, S.E., J.M. Forbes, Yu.I. Portnyagin, N.A. Makarov, and E.G. Merzlyakov, "COBRA – Towards a high latitude radar chain for MLT studies", PSMOS workshop, Foz do Igauasu, Brazil, Oct. 2002.
301. Palo, S.E., N.A. Makarov, J.P. Avery, S.K. Avery, J.M. Forbes, Yu. I. Portnyagin, and E.G. Merzlyakov, "Zonally asymmetric features observed over South Pole", 34th Scientific Assembly of the Committee on Space Research, Houston TX, Oct. 2002.

302. Merkel, A.W., S. E. Palo, G.E. Thomas, and S.M. Bailey, "Planetary wave signatures in polar mesospheric cloud measurements from the SNOE spacecraft", 34th Scientific Assembly of the Committee on Space Research, Houston TX, Oct. 2002.
303. Avery, S.K., S.E. Palo, J.P. Avery and Y. Lu, "Mesosphere and lower-thermosphere wind observations from a new South Pole meteor radar", American Geophysical Union Meeting, San Francisco CA, Dec. 2002.
304. Merkel¹, A.W., G.E. Thomas, S.E. Palo and S.M. Bailey, "Dynamical analysis of global polar mesospheric cloud measurements from the SNOE spacecraft", American Geophysical Union Meeting, Washington, DC, Jun. 2002.
305. Zhang, S.P., R. Clark, D. Riggan, W. Singer, A. Manson, C. Meek, Y. Murayama, N. Mitchell, S. Palo, S.M. Azeem, Y. Portnyagin, "Search for solar connections in neutral winds at 80-100km by MF and meteor radars in April 2002", American Geophysical Union Meeting, San Francisco CA, Dec. 2002.
306. Azeem, S.M.I., and S.E. Palo, "Estimating vertical winds from the mean meridional wind circulation: A case study for TIMED", American Geophysical Union Meeting, Washington, DC, Jun. 2002.
307. Azeem, S.M.I., S.E. Palo, D. Thorsen, and C. She, "Collocated intercomparison of radar and optical wind and temperature measurements in the mesosphere", American Geophysical Union Meeting, Boston, MA, Jun. 2001.
308. Azeem, S.M.I., and S.E. Palo, "Observations of the 2-day Wave in UARS/MLS Ozone Measurements", American Geophysical Union Meeting, San Francisco CA, Dec. 2000.
309. Palo, S.E., N.A. Makarov, J.M. Forbes, W.L. Ecklund, Yu.I. Portnyagin, and B. Petrov, "A low-cost, remotely-deployable meteor radar system for mesosphere/ionosphere coupling studies", 9th Workshop on Technical and Scientific Aspects of MST radar, Toulouse, France, 2000.
310. Palo, S.E. and D.C. Fritts, "Observations of long-period waves over Kauai, Hawaii from 1990 to 1999", American Geophysical Union Fall Meeting, San Francisco CA, Dec. 1999.
311. Palo, S.E., R.G. Roble and M.E. Hagan, "Effects of the quasi-two-day wave in the NCAR TIME-GCM", American Geophysical Union Spring Meeting, Boston MA, Jun. 1998.
312. Palo, S.E. and R.G. Roble, "The quasi-two-day wave in the thermosphere: A study using the TIME-GCM", European Geophysical Society Meeting, Nice, France, Apr. 1998.
313. Forbes, J.M., S.E. Palo, Yu.I. Portnyagin, N.A. Makarov, and E.G. Merzlyakov, "Intradiurnal oscillations in the Antarctic lower thermosphere winds: South Pole observations and global implications", European Geophysical Society Meeting, Nice, France, Apr. 1998.
314. Palo, S.E., Yu .I. Portnyagin, J.M. Forbes, N.A. Makarov, and E.G. Merzlyakov, "Transient long-period waves observed during summer over South Pole", American Geophysical Union Fall Meeting, San Francisco, CA, Dec. 1997.
315. Palo, S.E., "On the miscalculation of statistical significance levels for atmospheric observations", Third workshop on Winds in the Middle Atmosphere, Ann Arbor, MI, 1997.
316. Palo, S.E., R.G. Roble, and M.E. Hagan, "An investigation of the quasi-two-day wave in the NCAR TIME-GCM", 8th Scientific Assembly of IAGA, Uppsala Sweden, Jul. 1997.
317. Palo, S.E., Yu.I. Portnyagin, J.M. Forbes, N.A. Makarov, and X. Zhang, "Transient long period waves in the mesosphere over South Pole", 8th Scientific Assembly of IAGA, Uppsala Sweden, Jul. 1997.
318. Palo, S.E., M.V. Codrescu, and X. Zhang "A climatology of ionospheric total electron content using data from the TOPEX/Poseidon satellite", 8th Scientific Assembly of IAGA, Uppsala Sweden, Jul. 1997.
319. Portnyagin, Yu. I., J.M. Forbes, N.A. Makarov, E.G. Merzlyakov and S.E. Palo, "A strong summertime 12-hour wind oscillation with zonal wavenumber $s=1$ in the lower thermosphere over South Pole", American Geophysical Union Spring Meeting, Baltimore, MD, Jun. 1997.

320. Palo, S.E., M.V. Codrescu, and X. Zhang "A climatology of ionospheric total electron content using data from the TOPEX/Poseidon satellite", American Geophysical Union Spring Meeting, Baltimore, MD, Jun. 1997.
321. Palo, S.E. and M.E. Hagan, "An intercomparison between GSWM, UARS and ground based radar observations: A case study in January 1993", Second Workshop on Winds in the Middle Atmosphere, Toronto, Canada, May 1996.
322. Palo, S.E., J.L. Chang, S.K. Avery, A.C. Riddle, and K.S. Gage, "Detection of outliers in stratospheric/tropospheric wind velocity estimates", Seventh Workshop on Technical and Scientific Aspects of MST Radar, Hilton Head, SC, Nov. 1995.
323. Chang, J.L., S.K. Avery, A.C. Riddle, S.E. Palo, J.R. McAfee, and K.S. Gage, "Preliminary observations of tropospheric gravity wave momentum fluxes measured with the Christmas Island ST radar", Seventh Workshop on Technical and Scientific Aspects of MST Radar, Hilton Head, SC, Nov. 1995.
324. Palo, S.E., M.E. Hagan, and S.K. Avery, "Global-Scale model results relating the mesospheric response of the quasi-two-day wave to changes in the equatorial zonal mean wind field", IXX General Assembly of the IUGG, Boulder CO, Jul. 1995.
325. Palo, S.E., M.E. Hagan, R.G. Roble and R.A. Vincent, "An intercomparison of tides and planetary waves in the mesosphere and lower thermosphere during January 1993", IXX General Assembly of the IUGG, Boulder CO, Jul. 1995.
326. Palo, S.E., "Tides and planetary waves in the lower thermosphere during January 1993", 10th annual CEDAR Workshop, Boulder, CO, Jun. 1995.
327. Palo, S.E., R.G. Roble, M.E. Hagan, and S.K. Avery, "Initial results of an intercomparison between HRDI horizontal wind measurements and TIME-GCM results in the lower thermosphere during January 1993", American Geophysical Union Spring Meeting, Baltimore, MD, Jun. 1995.
328. Roble, R.G., S.E. Palo, M.E. Hagan, S.K. Avery and the UARS HRDI Team, "Chemical and dynamical signatures in the middle atmosphere during the 10-day January 20-30", 1993 observing campaign, UARS Science Team Meeting, Pasadena, CA, 1995.
329. Palo, S.E. and S.K. Avery, "A statistical technique for the detection of outliers in MST wind velocity estimates", National Radio Science Meeting, Boulder, CO, Jan. 1995.
330. Palo, S.E., S.K. Avery, M.E. Hagan, and W.J. Randel, "Initial model results relating the sensitivity of the quasi-two-day wave to changes in the equatorial zonal mean wind field", National Radio Science Meeting, Boulder, CO., Jan. 1995.
331. Palo, S.E., S.K. Avery, M.E. Hagan, and W.J. Randel, "Initial model results relating the sensitivity of the quasi-two-day wave to changes in the equatorial zonal mean wind field", American Geophysical Union 1994 Fall Meeting, San Francisco, CA, Dec. 1994.
332. Palo, S.E. and S.K. Avery, "A technique for the detection of outliers in MST wind velocity estimates", Workshop on Wind Observations in the Middle Atmosphere, Paris, France, Nov. 1994.
333. Palo, S.E. and S.K. Avery, "A technique for the detection of additive outliers in correlated noise", 9th annual CEDAR Workshop, Boulder, CO, Jun. 1994.
334. Palo, S.E. and S.K. Avery, "Observations of the quasi 2-day wave in the mesosphere and lower thermosphere at Christmas Island", 8th annual CEDAR Workshop, Boulder, CO, Jun. 1993.
335. Avery, S.K. and S.E. Palo, "The quasi 2-day wave in the mesosphere and lower thermosphere at Christmas Island", American Geophysical Union Chapman conference on the Upper Mesosphere and Lower Thermosphere, Monterey, CA, Nov. 1992.

336. Palo, S.E. and S.K. Avery, "Mean winds and the semiannual oscillation in the mesosphere and lower thermosphere at Christmas Island", American Geophysical Union Chapman conference on the Upper Mesosphere and Lower Thermosphere, Monterey, CA, Nov. 1992.
337. Palo, S.E. and S.K. Avery, "Analysis of nonstationary time series using the Wigner-Ville distribution", Fifth Workshop on Technical and Scientific Aspects of MST Radar, Aberystwyth, UK, Aug. 1991.
338. Palo, S.E. and S.K. Avery, "Extraction of atmospheric tides from meteor echo data", National Radio Science Meeting, Boulder, CO, Jan. 1990.
339. Valentic, T.A., S.E. Palo, S.Y. Su, J.P. Avery, and S.K. Avery, "Wind measurements using MEDAC", National Radio Science Meeting, Boulder, CO, Jan. 1990.
340. Avery, S.K., J.P. Avery, and S.E. Palo, "The quasi two-day wave in the mesosphere over Christmas Island", American Geophysical Union Fall Meeting, San Francisco, CA, Dec. 1989.