

## **Curriculum Vitae:**

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### **a. Professional Preparation:**

1984 Ph.D., Mathematics, University of Michigan, Ann Arbor, MI  
1979 M.A., Mathematics, SUNY, Stony Brook, NY  
1977 B.S. with Honors, Summa Cum Laude, University of Michigan, Ann Arbor, MI

### **b. Appointments:**

1998-present Senior Research Scientist, NorthWest Research Associates, Bellevue, WA  
1995-1998 Assistant Research Scientist, Space Physics Research Laboratory, University of Michigan  
1988-1995 Senior Research Associate, Space Physics Research Laboratory, University of Michigan  
1986-1987 Visiting Researcher, Max Planck Institut für Mathematik, Bonn, West Germany  
1984-1988 Mathematics Instructor, University of Utah, Salt Lake City, Utah  
1981-1984 Research Assistant, Space Physics Research Laboratory, University of Michigan

### **c. Publications:**

Akmaev R.A., V.A. Yudin and D.A.Ortland, (1997) SMLTM simulations of the diurnal tide: Comparison with UARS observations, *Annales de Geophysique* 15, 1187-1197.

Alexander, M. J. and D. A. Ortland, (2010): Equatorial waves in high resolution dynamics limb sounder (HIRDLS) data. *J. Geophys. Res.*, 115, D24111, doi:10.1029/2010JD014782.

Burrage, M. D., D. L. Wu, W. R. Skinner, D. A. Ortland, and P. B. Hays, (1995): Latitude and seasonal dependence of the semidiurnal tide observed by the High Resolution Doppler Imager, *J. Geophys. Res.* 100, 11,313-11,321.

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Lieberman, R. S., D. M. Riggin, D. A. Ortland, S. W. Nesbitt, and R. A. Vincent (2007), Variability of mesospheric diurnal tides and tropospheric diurnal heating during 1997–1998, *J. Geophys. Res.*, 112, D20110, doi:10.1029/2007JD008578.

Lieberman, R. S., D. A. Ortland, D. M. Riggin, Q. Wu, and C. Jacobi (2010), Momentum budget of the migrating diurnal tide in the mesosphere and lower thermosphere, *J. Geophys. Res.*, 115, D20105, doi:10.1029/2009JD013684.

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- Oberheide, J., Q. Wu, D.A. Ortland, T.L. Killeen, M.E. Hagan, R.G. Roble, R.J. Niciejewski and W.R. Skinner (2005): Non-migrating diurnal tides as measured by the TIMED Doppler interferometer: Preliminary results *Adv. Space Res.*, 35, 1911-1917.
- Ortland, D. A., P. B. Hays, W. R. Skinner, M. D. Burrage, A. R. Marshall, and D. A. Gell, (1995): A sequential estimation technique for recovering atmospheric data from orbiting satellites, in *The Upper Mesosphere and Lower Thermosphere, Geophysical Monograph Series, Vol. 87*, edited by R. M. Johnson and T. L. Killeen. AGU, Washington, DC, 329-337.
- Ortland, D. A., W. R. Skinner, P. B. Hays, M. D. Burrage, A. R. Marshall, and D. A. Gell, (1996): Measurements of stratospheric winds by the High Resolution Doppler Imager, *J. Geophys. Res.* 101, 10,351-10,363.
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- Ortland, D. A. (2005), Generalized Hough Modes: The Structure of Damped Global-Scale Waves Propagating on a Mean Flow with Horizontal and Vertical Shear. *J. Atmos. Sci.*, 62, 2674–2683.
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- Ortland D. A., M. J. Alexander (2006), Gravity wave influence on the global structure of the diurnal tide in the mesosphere and lower thermosphere, *J. Geophys. Res.*, 111, A10S10, doi:10.1029/2005JA011467.
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- Ortland, D. A., and M. J. Alexander, (2011): Solutions to the vertical structure equation for simple models of the tropical troposphere. *J. Atmos. Sci.*, 68, 2061-2072.
- Ortland, D. A., and M. J. Alexander, (2011): On the interaction of the migrating diurnal tide with inertia gravity waves generated by tropical heating, presented at the Chapman Conference on Gravity Waves in Honolulu.
- Ortland, D. A., and M. J. Alexander, (2013): The residual mean circulation in the tropical tropopause layer driven by tropical waves, submitted to *J. Atmos. Sci.*
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- Wu, Q., D.A. Ortland, T.L. Killeen, R.G. Roble, M.E. Hagan, H.-L. Liu, S.C. Solomon, J. Xu, W.R. Skinner, and R.J. Niciejewski, (2008): Global distribution and interannual variations of mesospheric and lower thermospheric neutral wind diurnal tide: 1. Migrating tide. *Journal of Geophysical Research-Space Physics*, 113, A05308, DOI: 10.1029/2007JA012542.
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- Yudin, Valery A., M. A. Geller, B. V. Khattatov, D. A. Ortland, M. D. Burrage, C. McLandress, G. G. Shepherd (1998) TMTM simulations of tides: Comparison with UARS observations, *Geophys. Res. Lett.* 25,221-224.
- Yudin V.A., B.V. Khattatov, M.A. Geller, D.A. Ortland., P.B. Hays, C. McLandress and G.G. Shepherd (1997) Thermal tides and studies to tune the mechanistic tidal model using UARS observations, *Annales de Geophysique* 15, 1205-1220.

### **e. Experience**

Dr. Ortland has extensive publications in the nonlinear modeling and theory of waves and tides in the neutral atmosphere from the surface to lower thermosphere. He has developed retrieval algorithms for HRDI/UARS and TIMED/TIDI, and has published papers on data analysis of the wind and temperature measurements from these instruments. He has taught a variety of mathematics courses as a graduate student at SUNY and University of Michigan, as an instructor at the University of Utah, and as a scientist at SPRL, University of Michigan.