

James William LaBelle

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Department of Physics and Astronomy
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Date and Place of Birth

June 21, 1958 Denver, Colorado (*U.S. citizen*)

Education

June, 1980 B.S., Physics, Stanford University
August, 1982 M.S., Applied Physics, Cornell University
June, 1985 Ph.D., Applied Physics, Cornell University

Career Summary

Jul 2001-present Professor, Department of Physics and Astronomy,
Dartmouth College, Hanover, New Hampshire
(Department Chair, 2013-2016)
Jul 1995-Jun 2001 Associate Professor,
Department of Physics and Astronomy,
Dartmouth College, Hanover, New Hampshire
Sep 1989-Jun 1995 Assistant Professor,
Department of Physics and Astronomy,
Dartmouth College, Hanover, New Hampshire
Dec 1987-Sep 1989 Research Associate,
Center for Atmospheric and Space Science,
Utah State University, Logan, Utah
Nov 1985-Nov 1987 Postdoctoral Associate, Max-Planck Institute
for Extraterrestrial Physics, Garching, Germany
May 1985-Nov 1985 Postdoctoral Associate, Cornell University, Ithaca

Professional Societies

American Geophysical Union
International Union of Radio Science, Commission H

Awards and Fellowships

McMullen Fellowship for Graduate Study, 1980-1981
Presidential Young Investigator Award, 1990-1995
Dartmouth Junior Faculty Fellowship, Spring 1993
University of Sydney International Visiting Research Fellowship, 2008
Lois L. Rodgers Professorship, Dartmouth College, 2010-present

Graduate Students Supervised

E. Gewirtz (M.Eng., 1992), A. Yue (M.S., 1993), A.T. Weatherwax (PhD, 1994),
E.J. Lund (PhD, 1995), D. Ruppert (M.S., 1995), J.M. Jahn (PhD, 1997),
S.G. Shepherd (PhD, 1998), K.L. McAdams (PhD, 1999), J. Clapper (M.S., 1999),
J.M. Hughes (PhD, 2000), M. Samara (PhD, 2005), S. Ye (PhD, 2007),
C. Colpitts (PhD, 2009), N. Bunch (PhD, 2010), X. Yan (M.S., 2013),
M. Broughton (PhD, 2014), M. Dombrowski (PhD, 2016), H. Kim (M.S., 2016),
S. Hatch (PhD, 2017), C. Moser (PhD, 2021), E. Hudson (M.S., 2021), T. Godfrey

J. LABELLE — PUBLICATIONS

1. Carpenter, D.L., and J.W. LaBelle, A study of whistlers correlated with bursts of electron precipitation near L=2, *J. Geophys. Res.*, *89*, 2955, 1982.
2. Kintner, P.M., J. LaBelle, M.C. Kelley, L.J. Cahill, T. Moore, and R. Arnoldy, Interferometric phase velocity measurements, *Geophys. Res. Lett.*, *11*, 19, 1984.
3. LaBelle, J., Mapping of electric field structures from the equatorial ionosphere to the underlying E-region, *J. Geophys. Res.*, *90*, 4341, 1985.
4. Baker, K.D., J. LaBelle, R.F. Pfaff, L.C. Howlett, N.B. Rao, J.C. Ulwick, and M.C. Kelley, Absolute electron density measurements in the equatorial ionosphere, *J. Atmos. Terr. Phys.*, *47*, 781, 1985.
5. Whalen, B.A., A.W. Yau, F. Creutzberg, D.D. Wallis, A.G. McNamara, F.R. Harris, M.B. Pongratz, P.A. Bernhardt, P.M. Kintner, J. LaBelle, W.R. Sheldon, J.R. Benbrook, E.A. Bering, P.A. Forsyth, and R.A. Koehler, Waterhole auroral arc modification experiments: electrodynamic response, *J. Geophys. Res.*, *90*, 8377, 1985.
6. LaBelle, J., Ionospheric turbulence: case studies in equatorial spread F and development of a rocket-borne interferometer, PhD. Thesis, Cornell University, 1985.
7. LaBelle, J., P.M. Kintner, A.W. Yau, and B.A. Whalen, Large amplitude wave packets observed in the ionosphere in association with transverse ion acceleration, *J. Geophys. Res.*, *91*, 7113, 1986.
8. LaBelle, J., P.M. Kintner, and M.C. Kelley, Interferometric phase velocity measurements in the auroral electrojet, *Planet. Space Sci.*, *34*, 1285, 1986.
9. LaBelle, J., and M.C. Kelley, The generation of kilometer scale irregularities in equatorial spread F, *J. Geophys. Res.*, *91*, 5504, 1986.
10. LaBelle, J., M.C. Kelley, and C.E. Seyler, An analysis of the role of drift waves in equatorial spread F, *J. Geophys. Res.*, *91*, 5513, 1986.
11. Kelley, M.C., J. LaBelle, E. Kudeki, B.G. Fejer, Sa. Basu, Su. Basu, K.D. Baker, C. Hanuise, P. Argo, R.F. Woodman, W.E. Swartz, D.T. Farley, and J.W. Meriwether, The CONDOR equatorial spread F experiment: an overview, *J. Geophys. Res.*, *91*, 5487, 1986.
12. Basu, Sa., Su. Basu, J. LaBelle, E. Kudeki, B.G. Fejer, M.C. Kelley, and H.E. Whitney, Gigahertz scintillations and spaced receiver drift measurements during the project CONDOR equatorial spread F campaign in Peru, *J. Geophys. Res.*, *91*, 5526, 1986.
13. Kintner, P.M., J. LaBelle, W. Scales, A.W. Yau, and B.A. Whalen, Observations of plasma waves within regions of perpendicular ion acceleration, *Geophys. Res. Lett.*, *13*, 1113, 1986.
14. Kintner, P.M., J. LaBelle, W. Scales, R. Erlandson, and L.J. Cahill, A comparison of plasma waves produced by ion accelerators in the F-region ionosphere, in *Ion Acceleration in the Magnetosphere and Ionosphere*, Geophysical Monograph 38, AGU, p. 206, 1986.
15. Treumann, R.A., O.H. Bauer, J. LaBelle, G. Haerendel, P.J. Christiansen, A.G. Darbyshire, A.J. Norris, L.C.J. Woolliscroft, R.R. Anderson, D.A. Gurnett, R.W. Holzworth, H.C. Koons, and J. Roeder, Electron Plasma waves in the solar wind: AMPTE/IRM and UKS observations, *Adv. Space Res.*, *6*, 353, 1986.
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19. Ögelman, H., H. Böhringer, S. Buchert, S. Chakir, J. LaBelle, and R.A. Treumann, Could there be terrestrial signatures of the EUV pulse from supernova 1987A?, *Astron. Astrophys.*, *183*, L27, 1987.
20. LaBelle, J., Are Fast Atmospheric Pulsations optical signatures of Lightning-induced Electron Precipitation?, *Geophys. Res. Lett.*, *15*, 277, 1988.
21. LaBelle, J., R.A. Treumann, W. Baumjohann, G. Haerendel, N. Sckopke, G. Paschmann, and H. Lühr, The duskside plasmopause/ring current interface: convection and plasma wave observations, *J. Geophys. Res.*, *93*, 2573, 1988.
22. LaBelle, J., and R.A. Treumann, Current-driven lower hybrid waves at the inner edge of the ring current, *J. Geophys. Res.*, *93*, 2591, 1988.
23. LaBelle, J., and R.A. Treumann, Plasma waves at the dayside magnetopause, *Space Sci. Rev.*, *47*, 175, 1988.
24. LaBelle, J., and G. Paschmann, Motions of the ring current inner edge inferred from plasma measurements, *J. Geophys. Res.*, *94*, 485, 1989.
25. LaBelle, J., R.J. Sica, C. Kletzing, G.D. Earle, M.C. Kelley, D. Lummerzheim, R.B. Torbert, K.D. Baker, and G. Berg, Ionization from soft electron precipitation in the auroral F-region, *J. Geophys. Res.*, *94*, 3791, 1989.
26. LaBelle, J., Radio Noise of Auroral Origin: 1968-1988, *J. Atmos. Terr. Phys.*, *51*, 197, 1989.
27. Baumjohann, W., R.A. Treumann, J. LaBelle, and R.R. Anderson, Average electric wave power across the plasma sheet and its relation to ion bulk speed, *J. Geophys. Res.*, *94*, 15221, 1989.
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38. Treumann, R.A., J. LaBelle, G. Haerendel, and R. Pottellette, Plasma diffusion and the magnetopause boundary layer, *IEEE Trans. Plasma Sci.*, *20*, 1–10, 1992.
39. LaBelle, J., and A.T. Weatherwax, Ground-based observations of LF/MF/HF radio waves of auroral origin, *Proceedings of the 1992 Cambridge Workshop in Geoplasma Physics*, T. Chang, editor, Scientific Publishers, Cambridge, Mass., p. 223, 1993.
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61. Pfaff, R.F., J.H.A. Sobral, M.A. Abdu, W.E. Swartz, J. LaBelle, M. Larsen, and R. Goldberg, The Guará campaign: A series of rocket-radar investigations of the Earth's upper atmosphere at the magnetic equator, *Geophys. Res. Lett.*, 24, 1666, 1997.
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64. Lund, E.J., M.L. Trimpi, E.H. Gwirtz, R.H. Cook, and J. LaBelle, The plasma frequency tracker: an instrument for probing the frequency structure of narrow band MF/HF electric fields, Proc. Chapman Conf. on Measurement Techniques, 1997.
65. Shepherd, S.G., J. LaBelle, and M.L. Trimpi, The polarization of auroral roar emissions, *Geophys. Res. Lett.*, 24, 3161, 1997.
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70. LaBelle, J., A.T. Weatherwax, M.L. Trimpi, J. Perring, and U.S. Inan, HF auroral hiss observations at high geomagnetic latitudes, *J. Geophys. Res.*, 103, 20459, 1998.
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100. Kim, H., M.R. Lessard, J. LaBelle, and J.R. Johnson, Narrow-band ELF wave phenomena observed at South Pole Station, *Geophys. Res. Lett.*, *33*, **L06109**, doi:10.1029/2005GL023638, 2006.
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