

WILLIAM LOTKO

Publications

- Localized parallel electric fields associated with inertial Alfvén waves
R.E. Ergun, L. Andersson, Y.-J. Su, D.L. Newman, M.V. Goldman, W. Lotko, C.C. Chaston and C.W. Carlson, *Phys. Plasmas* 12, 072901, 2005
- Some properties of Alfvén waves: Observations in the tail lobes and the plasma sheet boundary layer
A. Keiling, G.K. Parks, J.R. Wygant, J. Dombeck, F.S. Mozer, C.T. Russell, A.V. Streltsov and W. Lotko, *J. Geophys. Res.* 110, A10S11, doi:10.1029/2004JA010907, 2005
- Simulations of ULF field-aligned currents generated by HF heating of the ionosphere
A.V. Streltsov, W. Lotko and G.M. Milikh, *J. Geophys. Res.* 110, A04216, doi:10.1029/2004JA010629, 2005
- Ultralow-frequency electrodynamics of the magnetosphere-ionosphere interaction
A.V. Streltsov and W. Lotko, *J. Geophys. Res.* 110, A08203, doi:10.1029/2004JA010764, 2005
- Multiscale electrodynamics of the ionosphere-magnetosphere system
A.V. Streltsov and W. Lotko, *J. Geophys. Res.* 109, A09214, doi:10.1029/2004JA010457, 2004
- Inductive magnetosphere-ionosphere coupling
W. Lotko, *J. Atmos. Solar-Terr. Phys.*, 66/15-16, 1443-1456, doi:10.1016/j.jastp.2004.03.027, 2004
- 2004** Simulations of resonant Alfvén waves generated by artificial HF heating of the auroral ionosphere
D. Pokhotelov, W. Lotko and A.V. Streltsov, *Ann. Geophys.* 22, 2943, doi:1432-0576/ag/2004-22-2943, 2004
- Auroral Plasma Physics* (International Space Science Institute, vol. 15)
W. Lotko (contributing author) ed. by G. Paschmann, S. Haaland and R. Treumann, Kluwer Academic Publishers, 2003
- The Sun to Earth and Beyond: Panel Report on Theory, Modeling, and Data Exploration*
W. Lotko (contributing author), National Academy Press, p.183-210, 2003
- Small-scale electric fields in downward auroral current channels
A.V. Streltsov and W. Lotko, *J. Geophys. Res.*, 108(A7), 1289, doi:10.1029/2002JA009806, 2003
- Reflection and absorption of Alfvénic power in the low-altitude magnetosphere
A.V. Streltsov and W. Lotko, *J. Geophys. Res.*, 108(A4), 8016, doi:10.1029/2002JA009425, 2003
(Erratum: *J. Geophys. Res.* 110, A04217, 2005)
- Harmonic structure of field line eigenmodes generated by ionospheric feedback instability
D. Pokhotelov, W. Lotko and A.V. Streltsov, *J. Geophys. Res.* 107(A11), 1363, doi:10.1029/2001JA000134, 2002
- Ultra-low-frequency magnetohydrodynamics in boundary-constrained geomagnetic flux coordinates
J.A. Proehl, W. Lotko, I. Kouznetsov and S.D. Geimer, *J. Geophys. Res.* 107(A9), 1225, doi:10.1029/2001JA000135, 2002
- Evidence for kinetic Alfvén waves and parallel electron energization at 4-6 RE altitudes ...
J.R. Wygant, A. Keiling, C.A. Cattell, M. Temerin, F.S. Mozer, C.A. Kletzing, J.D. Scudder, A.V. Streltsov, W. Lotko and C.T. Russell, *J. Geophys. Res.* 107(A8), 1201, doi:10.1029/2001JA900113, 2002
- Numerical modeling of Alfvén waves observed by Polar in the nightside plasmashet boundary layer
A.V. Streltsov, W. Lotko, A. Keiling and J. R. Wygant, *J. Geophys. Res.* 107(A8), 1173, doi:10.1029/2001JA000233, 2002
- 2002** Effects of seasonal asymmetry in ionospheric conductance on the appearance of discrete aurora
D. Pokhotelov, W. Lotko and A.V. Streltsov, *Geophys. Res. Lett.* 29(10), 1437, doi:10.1029/2001GL014010, 2002

WILLIAM LOTKO

Publications

- Large Alfvén wave power in the plasma sheet boundary during the expansion phase of substorms
A. Keiling, J.R. Wygant, C. Cattell, M. Temerin, F.S. Mozer, C.A. Kletzing, J. Scudder, C.T. Russell, W. Lotko and A.V. Streltsov, *Geophys. Res. Lett.* 27, 3169, 2000
- Possible evidence of damped cavity mode oscillations stimulated by the Jan 11 1997 magnetic cloud ...
J. Goldstein, M.K. Hudson and W. Lotko, *Geophys. Res. Lett.* 26, 3589, 1999
- Numerical cavity mode simulation and Polar data from the January, 1997 magnetic cloud event
J. Goldstein, R.E. Denton, M.K. Hudson, W. Lotko and J.G. Lyon, in *Sun-Earth Plasma Connections* (Geophysical Monograph vol. 109), ed. by J.L. Burch, R.L. Carovillano and S.K. Antiochos, American Geophysical Union, Washington D.C., p. 77, 1999
- Small-scale, "electrostatic" auroral structures and Alfvén waves
A.V. Streltsov and W. Lotko, *J. Geophys. Res.* 104, 4411, 1999
- Discrete auroral arc, electrostatic shock, and suprathermal electrons powered by dispersive, resistive FLR
W. Lotko, A.V. Streltsov and C.W. Carlson, *Geophys. Res. Lett.* 25, 4449, 1998
- 1998** Small-scale dispersive field line resonances in the hot magnetospheric plasma
A.V. Streltsov, W. Lotko, J.R. Johnson and C.Z. Cheng, *J. Geophys. Res.* 103, 26,559, 1998
- Magnetospheric resonance, auroral structure, and multipoint measurements
W. Lotko and A.V. Streltsov, *Adv. Space Res.* 20, 1067, 1997
- Dispersive nonradiative field line resonances in dipolar magnetic field geometry
A.V. Streltsov and W. Lotko, *J. Geophys. Res.* 102, 1997
- Influence of the finite ionospheric conductivity on dispersive, nonradiative field line resonances
A.V. Streltsov and W. Lotko, *Ann. Geophys.* 15, 625, 1997
- Modeling the low-latitude boundary layer with finite field-aligned potential drops ...
C.Q. Wei, B.U.O. Sonnerup and W. Lotko, *J. Geophys. Res.* 101, 21,463, 1996
- On the kinetic dispersion relation for shear Alfvén waves
R.L. Lysak and W. Lotko, *J. Geophys. Res.* 101, 5085, 1996
- Fine structure of dispersive nonradiative field line resonance layers
A.V. Streltsov and W. Lotko, *J. Geophys. Res.* 101, 5343, 1996
- Dispersive field line resonances on auroral field lines
A.V. Streltsov and W. Lotko, *J. Geophys. Res.* 100, 19,457, 1995
- The low-latitude boundary layer on closed field lines
W. Lotko and B.U.O. Sonnerup, in *Physics of the Magnetopause* (American Geophysical Union Monograph), ed. by P. Song, B. Sonnerup, and M. Thomsen, Washington D.C., p. 371-383, 1995
- Radial energy transport by magnetospheric ULF waves: Effects of magnetic curvature ...
I. Kouznetsov and W. Lotko, *J. Geophys. Res.* 100, 7599, 1995
- 1995** Modeling mesoscale processes in the global geospace system
M.K. Hudson, C.A. Cattell, W. Lotko, R.L. Lysak, I. Roth and M. Temerin, *Space Sci. Rev.* 71, 623, 1995
- Developing service promises accurate space weather forecasts in the future
G. Siscoe, E. Hildner, T.L. Killeen, L.J. Lanzerotti and W. Lotko, *EOS Trans. Am. Geophys. Union* 75, 353+365-366, 1994
- Self-consistent steady-state model of the low-latitude boundary layer
E. Drakou, B.U.O. Sonnerup and W. Lotko, *J. Geophys. Res.* 99, 2351, 1994

WILLIAM LOTKO

Publications

- Milestones in Geospace Environment Modeling
W. Lotko, *EOS Trans. Am. Geophys. Union*, 74, 618-619+622, 1993
- Acoustic double layers in multispecies plasma
 P.C. Gray, M.K. Hudson and W. Lotko, *IEEE Trans. Plasma Sci.* 20, 745, 1992
- 1992** Decay of ion beam driven acoustic waves into ion holes
 P.C. Gray, M.K. Hudson, W. Lotko and R. Bergmann, *Geophys. Res. Lett.* 18, 1675, 1992
- Report of the Working Group on Modeling and Theory
W. Lotko and W. Burke in *Geospace Environment Modeling Workshop Report on Intercalibrating Cusp Signatures*, ed. by N. Crooker, NSF Magnetospheric Physics Program, Washington D.C., p. 125-126, 1991
- Magnetic field draping at the low-latitude boundary magnetopause
 R.L. Richard and W. Lotko, *J. Geophys. Res.* 96, 15,779, 1991
- On large-scale rotational motions and energetics of auroral shear layers
W. Lotko and M.-M. Shen, *J. Geophys. Res.* 96, 9549, 1991
- A high-latitude, low-latitude boundary layer model of the convection current system
 G.L. Siscoe, W. Lotko and B.U.O. Sonnerup, *J. Geophys. Res.* 96, 3487, 1991
- Self-consistent model of the low-latitude boundary layer
 T.D. Phan, B.U.O. Sonnerup and W. Lotko, *J. Geophys. Res.* 94, 1281, 1989
- Report of the Working Group on Ionospheric Signatures
W. Lotko, in *Report of the Geospace Environment Modeling Workshop, Theory Campaign on Magnetopause and Boundary Layer Physics*, ed. by M. Ashour-Abdalla, NSF Magnetospheric Physics Program, Washington D. C., p. 61-68, 1989
- 1989** Oxygen acoustic solitary waves in magnetized plasma
 S. Qian, W. Lotko and M.K. Hudson, *J. Geophys. Res.* 94, 1339, 1989
- Dynamics of localized ion acoustic waves in a magnetized plasma
 S. Qian, W. Lotko and M.K. Hudson, *Phys. Fluids* 31, 2190, 1988
- Internal shear layers in auroral dynamics
W. Lotko and C.G. Schultz, in *Magnetosphere-Ionosphere Plasma Models* (Geophysical Monograph Series, v. 44), ed. by T.E. Moore and J.H. Waite, Jr., p. 121, AGU, Washington D. C., 1988
- Nonsteady boundary layer flow including ionospheric drag and parallel electric fields
W. Lotko, B. Sonnerup and R.L. Lysak, *J. Geophys. Res.* 92, 8635, 1987
- 1987** Weak double layers in the auroral ionosphere
 M.K. Hudson, T.L. Crystal, W. Lotko and C. Barnes, *Laser and Particle Beams* 5, 295, 1987
- Evidence for nonlinear wave-wave interactions in solar type III radio bursts
 R.P. Lin, W.K. Levedahl, W. Lotko, D.A. Gurnett and F.L. Scarf, *Astrophys. J.* 308, 954, 1986
- Transition to unstable ion flow in parallel electric fields
 R. Bergmann and W. Lotko, *J. Geophys. Res.* 91, 7033, 1986
- Production of flickering aurora and field-aligned electron flux by electromagnetic ion cyclotron waves
 M. Temerin, J. McFadden, M. Boehm, C.W. Carlson and W. Lotko, *J. Geophys. Res.* 91, 5769, 1986
- Diffusive acceleration of auroral primaries
W. Lotko, *J. Geophys. Res.* 91, 191, 1986

WILLIAM LOTKO

Publications

- Particle energization in stochastic double layers
W. Lotko, in *Unstable Current Systems and Plasma Instabilities in Astrophysics*, ed. by M.R. Kundu and G.D. Holman, IAU, D. Reidel Publ. Co., Dordrecht, Holland, p. 125, 1985
- 1985** Weak double layers in ion-acoustic turbulence
 C. Barnes, M.K. Hudson and W. Lotko, *Phys. Fluids* 28, 1055, 1985
- The evolution of double layers in one and two dimensions
 C. Barnes, M.K. Hudson and W. Lotko, in *Proceedings of the Second Symposium on Plasma Double Layers and Related Topics*, ed. by R. Schrittwieser and G. Eder, Institute for Theoretical Physics, University of Austria, Innsbruck, Austria, p. 284, 1984
- Spiky ion acoustic waves in collisionless auroral plasma
W. Lotko and C.F. Kennel, *J. Geophys. Res.* 88, 381, 1983
- Solitary waves and double layers on auroral field lines
 M.K. Hudson, W. Lotko, I. Roth and E. Witt, *J. Geophys. Res.* 88, 916, 1983
- Observations of double layers and solitary waves in the auroral plasma
 M.K. Temerin, K. Cerny, W. Lotko and F.S. Mozer, *Phys. Rev. Lett.* 48, 48, 1982
- Ion acoustic solitary waves in a magnetized plasma with arbitrary electron equation of state
 E. Witt and W. Lotko, *Phys. Fluids* 26, 2176, 1983
- Reflection dissipation of an ion acoustic soliton
W. Lotko, *Phys. Fluids* 26, 1771, 1983
- 1982** Formation of double layers on auroral field lines
 R.L. Lysak, M.K. Hudson, W. Lotko and E. Witt, in *Proceedings of the Symposium on Plasma Double Layers*, ed. by P. Michelsen and J.J. Rasmussen, RISO National Laboratory, Roskilde, Denmark, p. 274, 1982
- Ion-acoustic soliton propagation and dynamics in auroral plasma
W. Lotko, Ph.D. dissertation, University of California, Los Angeles, 1981
- Stationary electrostatic solitary waves in the auroral plasma
W. Lotko and C.F. Kennel, in *Physics of Auroral Arc Formation, Geophysical Monograph Series, vol. 25*, ed. by S.I. Akasofu and J.R. Kan, American Geophysical Union, Washington D. C., p. 437, 1981
- Amplification of electrostatic noise in cyclotron resonance with an adiabatic auroral beam
W. Lotko and J.E. Maggs, *J. Geophys. Res.* 86, 3449, 1981
- Altitude dependent model of auroral beam and beam generated electrostatic noise
 J.E. Maggs and W. Lotko, *J. Geophys. Res.* 86, 3439, 1981
- 1979** Damping of electrostatic noise by warm auroral electrons
W. Lotko and J.E. Maggs, *Planet. Space Sci.* 2, 1491, 1979
- Theoretical calculation of static resistivity in liquid sodium and potassium
W. Lotko and R.D. Murphy, *Fluid Phase Equil.* 1, 277, 1977
- 1976** Theoretical calculation of static resistivity in liquid sodium and potassium
W. Lotko, M.S. thesis, University of Missouri, Kansas City, 1976