Curriculum Vitae

Brett Altschul
Department of Physics and Astronomy
University of South Carolina
Jones Physical Science Center, Room 703
712 Main Street
Columbia, South Carolina 29208 USA
baltschu@physics.sc.edu

Education

	Institution	Major/Field	Degree/Years
Undergraduate:	Massachusetts Institute of Technology	Mathematics	BS 1999
	Massachusetts Institute of Technology	Physics	BS 2001
Graduate:	Massachusetts Institute of Technology	Applied Mathematics	PhD 2003

Appointments

2012–present:	Associate Professor; Department of Physics and Astronomy; University of South Carolina; Columbia, SC
2012–present:	Visiting Associate Professor; Department of Physics; Indiana University; Bloomington, IN
2007–2012:	Assistant Professor; Department of Physics and Astronomy; University of South Carolina; Columbia, SC
2007–2012:	Visiting Assistant Professor; Department of Physics; Indiana University; Bloomington, IN
2003–2007:	Research Associate; Department of Physics; Indiana University; Bloomington, IN

Selected Publications (h-index of 24)

"Bounds on vacuum-orthogonal Lorentz and CPT violation from radiative corrections," B. Altschul, *Phys. Rev. D*, **99**, 111701(R) (2019) [arXiv:1904.13042].

"Ligand-induced magnetic changes in metal thin films," F. S. Oberbeck-Oxsher, B. D. Altschul, T. M. Crawford, S. R. Crittenden, *Phys. Rev. B* **98**, 134408 (2018).

"Hadronic Lorentz violation in chiral perturbation theory including the coupling to external fields," R. Kamand, B. Altschul, M. R. Schindler, *Phys. Rev. D* **97**, 095027 (2018) [arXiv:1712.00838].

"Time required for a sphere to fall through a funnel," J. Sridharan, B. Altschul, S. Crittenden, *AIP Advances* **4**, 127137 (2014).

"Precision measurement of the hydrogen $1S$-$2S$ frequency via a 920-km fiber link," A. Matveev, C. G. Parthey, K. Predehl, J. Alnis, A. Beyer, R. Holzwarth, T. Udem, T. Wilken, N. Kolachevsky, M. Abgrall, D. Rovera, C. Salomon, P. Laurent, G. Grosche, O. Terra, T. Legero, H. Schnatz, S. Weyers, B. Altschul, T. W. Hänsch, *Phys. Rev. Lett.* **110**, 230801 (2013).

"Bounds on parity violation in the cosmological redshift," B. Altschul, M. Mewes, *Phys. Rev. D* **84**, 083512 (2011) [arXiv:1104.5673].

"Renormalization of scalar and Yukawa field theories with Lorentz violation," A. Ferrero, B. Altschul, *Phys. Rev. D* **84**, 065030 (2011) [arXiv:1104.4778].

"Limits on the time variation of the Fermi constant G_F based on type Ia supernova observations," A. Ferrero, B. Altschul, *Phys. Rev. D*, **82**, 123002 (2010) [arXiv:1008.4769].

"Testing photons' Bose-Einstein statistics with Compton scattering," B. Altschul, *Phys. Rev. D* **82**, 101703(R) (2010) [arXiv:1008.4779].

"Radiatively induced Lorentz and gauge symmetry violation in electrodynamics with varying α," A. Ferrero, B. Altschul, *Phys. Rev. D* **80**, 125010 (2009) [arXiv:0910.5202].

"Bounding isotropic Lorentz violation using synchrotron losses at LEP," B. Altschul, *Phys. Rev. D* **80**, 091901(R) (2009) [arXiv:0905.4346].

"Disentangling forms of Lorentz violation with complementary clock comparison experiments," B. Altschul, *Phys. Rev. D* **79**, 061702(R) (2009) [arXiv:0901.1870].

"Bound on the photon charge from the phase coherence of extragalactic radiation," B. Altschul, *Phys. Rev. Lett.* **98**, 261801 (2007) [hep-ph/0703126].

"Vacuum Cerenkov radiation in Lorentz-violating theories without CPT violation," B. Altschul, *Phys. Rev. Lett.* **98**, 041603 (2007) [hep-th/0609030].

"Limits on Lorentz violation from synchrotron and inverse Compton sources," B. Altschul, *Phys. Rev. Lett.* **96**, 201101 (2006) [hep-ph/0603138].

"Gauge invariance and the Pauli-Villars regulator in Lorentz- and CPT-violating electrodynamics," B. Altschul, *Phys. Rev. D* **70**, 101701(R) (2004) [hep-th/0407172].

Graduate Students Supervised

Richard DeCosta, Ph.D. expected 5/20
Alejandro Ferrero-Botero, Ph.D., 5/11
Vaibhav Tiwari, M.S., 5/09

Grants Received

"REU Site: Undergraduate Research in Physics at the University of South Carolina," National Science Foundation, $257,808, 2013–2017.

Awards

Outstanding Referee for the American Physical Society, 2017
Reviewer of the Year for *Journal of Physics Communications*, 2017
Most Valued Reviewer for *Physics Letters B*, 2014
Certificate of Reviewing Excellence from *Annals of Physics*, 2013
Liberty Mutual Mathematics Fellowship, 1999–2000