

Curriculum Vitae

Brett Altschul
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University of South Carolina
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Biographical

Date of Birth: March 23, 1977

Place of Birth: Rochester, New York, USA

Education

Massachusetts Institute of Technology, Cambridge, MA

Bachelor of Science in Mathematics, June 1999

Bachelor of Science in Physics, June 2001

Doctor of Philosophy in Applied Mathematics, June 2003

Thesis advisor: R. Jackiw, Jerrold Zacharias Professor of Physics

Thesis title: "Aspects of quantum theory in 1+1 and slightly more dimensions"

Professional

Department of Physics and Astronomy

University of South Carolina, Columbia, SC

Assistant Professor, Aug. 2007–present

Department of Physics

Indiana University, Bloomington, IN

Research Associate, July 2003–Aug. 2007

Department of Mathematics

Massachusetts Institute of Technology, Cambridge, MA

Teaching Assistant, Feb. 2001–Jan. 2003

Smithsonian Astrophysical Observatory, Cambridge, MA

Research Assistant, May 2000–Sep. 2000

Department of Physics

Massachusetts Institute of Technology, Cambridge, MA

Teaching Assistant, Sep. 1998–May 1999

Awards

Liberty Mutual Mathematics Fellowship, 1999–2000.

Publications

- [1] “Heavy residue production in the interaction of 29 MeV/nucleon ^{208}Pb with ^{197}Au ,” W. Loveland, M. Andersson, K. E. Zyromski, N. Ham, B. Altschul, J. Vlcakova, D. Menge, J. O. Liljenzin, R. Yanez, K. Aleklet, *Phys. Rev. C* **59**, 1472–1479 (1999).
- [2] “Photon decay at the Schwarzschild horizon,” B. Altschul, R. Jackiw, *Phys. Lett. B* **515**, 451–457 (2001) [[gr-qc/0105069](#)].
- [3] “Analysis of a toy model of electron splitting,” B. Altschul, C. Rebbi, *Phys. Rev. A* **69**, 032111 (2004) [[cond-mat/0211096](#)].
- [4] “Failure of gauge invariance in the nonperturbative formulation of massless Lorentz-violating QED,” B. Altschul, *Phys. Rev. D* **69**, 125009 (2004) [[hep-th/0311200](#)].
- [5] “Compton scattering in the presence of Lorentz and CPT violation,” B. Altschul, *Phys. Rev. D* **70**, 056005 (2004) [[hep-ph/0405084](#)].
- [6] “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](#)].
- [7] “Nonpolynomial normal modes of the renormalization group in the presence of a constant vector potential background,” B. Altschul, *Nucl. Phys. B* **705**, 593–604 (2004) [[hep-th/0403093](#)].
- [8] “Velocity in Lorentz-violating fermion theories,” B. Altschul, D. Colladay, *Phys. Rev. D* **71**, 125015 (2005) [[hep-th/0412112](#)].
- [9] “Infinitesimally nonlocal Lorentz violation,” B. Altschul, *Phys. Rev. D* **72**, 025001 (2005) [[hep-th/0412113](#)].
- [10] “Problems with gauge invariance in Lorentz-violating QED,” B. Altschul, *Int. J. Mod. Phys. A* **20**, 1244–1251 (2005).
- [11] “Spontaneous Lorentz violation and nonpolynomial interactions,” B. Altschul, V. A. Kostelecký, *Phys. Lett. B* **628**, 106–112 (2005) [[hep-th/0509068](#)].
- [12] “Lorentz violation and synchrotron radiation,” B. Altschul, *Phys. Rev. D* **72**, 085003 (2005) [[hep-th/0507258](#)].
- [13] “Non-Hermitian interactions between harmonic oscillators, with applications to stable, Lorentz-violating quantum electrodynamics.” B. Altschul, *J. Math. Phys.* **47**, 012101 (2006) [[hep-th/0402036](#)].
- [14] “Lorentz violation and Faddeev-Popov ghosts,” B. Altschul, *Phys. Rev. D* **73**, 045004 (2006) [[hep-th/0511200](#)].
- [15] “Radiatively induced Lorentz-violating photon masses,” B. Altschul, *Phys. Rev. D* **73**, 036005 (2006) [[hep-th/0512090](#)].

- [16] “Limits on Lorentz violation from synchrotron and inverse Compton sources,” B. Altschul, *Phys. Rev. Lett.* **96**, 201101 (2006) [[hep-ph/0603138](#)].
- [17] “Lorentz violation and the Yukawa potential,” B. Altschul, *Phys. Lett. B* **639**, 679–683 (2006) [[hep-th/0605044](#)].
- [18] “Synchrotron and inverse Compton constraints on Lorentz violations for electrons,” B. Altschul, *Phys. Rev. D* **74**, 083003 (2006) [[hep-ph/0608332](#)].
- [19] “Eliminating the CPT-Odd f coefficient from the Lorentz-violating standard model extension,” B. Altschul, *J. Phys. A: Math. Gen.* **39**, 13757–13765 (2006) [[hep-th/0602235](#)].
- [20] “Limits on neutron Lorentz violation from pulsar timing,” B. Altschul, *Phys. Rev. D* **75**, 023001 (2007) [[hep-ph/0608094](#)].
- [21] “Vacuum Cerenkov radiation in Lorentz-violating theories without CPT violation,” B. Altschul, *Phys. Rev. Lett.* **98**, 041603 (2007) [[hep-th/0609030](#)].
- [22] “Bounds on spin-dependent Lorentz violation from inverse Compton observations,” B. Altschul, *Phys. Rev. D* **75**, 041301(R) (2007) [[hep-ph/0612288](#)].
- [23] “Cerenkov radiation in a Lorentz-violating and birefringent vacuum,” B. Altschul, *Phys. Rev. D* **75**, 105003 (2007) [[hep-th/0701270](#)].
- [24] “Bound on the photon charge from the phase coherence of extragalactic radiation,” B. Altschul, *Phys. Rev. Lett.*, to appear July 2007 [[hep-ph/0703126](#)].