

ANATOLY SPITKOVSKY

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Academic Training	University of California, Berkeley Ph.D. in Physics, 2002 M.A. in Physics, 1997	
	California Institute of Technology B.S. in Physics with honors, 1995	
Research Interests	<i>High-energy astrophysics:</i> origin of nonthermal power in the Universe, relativistic outflows, pulsar magnetospheres and winds, magnetic fields and particle acceleration in collisionless shocks, nuclear burning on accreting neutron stars, gamma-ray bursts. <i>Plasma physics:</i> high energy density physics with ultra-intense lasers, laser-plasma interaction, physics of plasma accelerators, laboratory astrophysics.	
Research Experience	Professor 2015 – Department of Astrophysical Sciences, Princeton University Associated Faculty at Princeton Institute for Computational Science and Engineering (PICSciE)	
	Assistant & Associate Professor 2006 – 2015 Department of Astrophysical Sciences, Princeton University	
	Chandra Postdoctoral Fellow 2002 – 2005 Astronomy Department, UC Berkeley & Kavli Institute for Particle Astrophysics and Cosmology (KIPAC), Stanford University	
	Doctoral Candidate 1997 – 2002 Physics Department and Astronomy Department, UC Berkeley Advisor: Prof. Jonathan Arons <i>Thesis:</i> “Pulsar winds and other burning questions of astrophysics.”	
	Research Assistant 1995 – 1997 Accelerator Theory Department, Stanford Linear Accelerator Center	
Teaching	AST541 “Astrophysics of Compact Objects”, Princeton 2007, 2014 AST520 “High Energy Astrophysics”, Princeton 2008, 2010, 2012 AST203 “The Universe”, Princeton 2009-15 Supervised 8 graduate and 7 undergraduate students; 3 PhD thesis graduates; currently 1 PhD thesis student	
Awards and Honors	Simons Foundation Investigator in Theoretical Physics 2014-2019 Simons Foundation Fellowship 2013-2014 Sloan Foundation Fellowship 2007-2009 Chandra Postdoctoral Fellowship 2002-2005 Mary E. Uhl Award, UC Berkeley, for distinguished PhD research 2002 California Space Institute CalSpace fellowship 2001 California Department of Education Graduate Fellowship 1995-96 Caltech Merit Prize (full tuition) 1994	

Professional Societies and Service

Member: American Astronomical Society
Member of Advisory Committee for Princeton Plasma Physics Laboratory
Member of PICSciE Executive Committee, Princeton University
Member of Research Computing Advisory Group, Princeton University
Panel reviewer: Chandra X-ray Observatory, NASA ATP, NSF AST
Organizer, “Computational Relativistic Astrophysics” program, Princeton Center for Theoretical Science (PCTS), Princeton (2009-10) and “Accelerating Cosmic Ray Comprehension” program, PCTS (2014-15)
Organizer, KITP Santa Barbara program on “Particle Acceleration” (2009)
Referee for Astrophysical Journal, Astrophysical Journal Letters, Physical Review Letters, Monthly Notices of the Royal Astronomical Society, Advances in Space Research.

Recent Research Grants

“*First-Principles Simulations of Pulsar Magnetospheres*,” NASA, Astrophysics Theory Program (2015-2018)
“*High Energy Emission from Pulsar Magnetospheres and Winds*,” NASA, Astrophysics Theory Program (2012-2015)
“*Collisionless Shocks in Laboratory High Energy Density Plasmas*,” DOE/NNSA, National Laser Users Facility, (2010-16)
“*Ab-initio Calculation of Early Afterglow Emission*,” SWIFT cycle 7 (2012-13)
“*Light Curves and Strong Currents in Pulsars*,” NASA Fermi cycle 4-7 (2011-15)
“*Particle Acceleration in Astrophysical Collisionless Shocks*” (2008-2013), NSF AST

Recent supercomputer time awards: “Particle Acceleration in Astrophysical Shocks”, DOE NERSC, 2.4 million hours/year; “Kinetic simulations of collisionless shocks” XSEDE TACC/stampede, 3.2 million hours/year.

Recent Invited Talks and Colloquia

Invited review talks at conferences:
“Astrophysics of High-Beta Plasma in the Universe”, Jeju Island, S. Korea, 2014; “Relativistic Plasma Astrophysics”, Purdue University, 2014; “4th International Conference on High Energy Density Physics”, St. Malo, France, 2013; “Black Holes, Jets and Outflows”, Kathmandu, Nepal, 2013; “Neutron Stars and Pulsars”, IAU Symposium 291, Beijing, 2012; “Gamma-2012”, Heidelberg 2012; “Crab Nebula Flares”, Rome, 2012; “High Energy Density Laboratory Astrophysics”, Tallahassee, 2012; “International Conference of Numerical Simulations of Plasmas”, Long Branch, 2011; “High-Energy Processes in Relativistic Outflows”, Barcelona 2011, “Particle Acceleration in Astrophysical Plasmas”, Bern 2011; APS April meeting, Anaheim, 2011

Colloquium at Universidad de Chile, Santiago, Chile, December 2014

Colloquium at Max Planck Institute for Astrophysics, Garching, Germany, June 2014

Colloquium at UC Berkeley, September 2013

Colloquium at UCLA, February 2013

Colloquium at NASA Goddard, January 2013

Colloquium at University of Texas, Austin, November 2012

Colloquium at University of Colorado, Boulder, April 2011