

CURRICULUM VITAE

NAME: Ethan Tecumseh Vishniac

ADDRESS:

Home: 2019 Spadina Crescent East
Saskatoon SK S7K 0C9

Business: Department of Physics and Engineering Physics
University of Saskatchewan
Saskatoon SK
S7N 5E2

CONTACT: Home: 306 203 4286
Business: 306 966-6460
Email: ethan.vishniac@usask.ca

PERSONAL DATA:

Date of Birth: September 29, 1955
Country of Birth: United States of America
Citizenship: USA (Permanent Resident of Canada)

EDUCATION:

B.S.: Astronomy and Physics, University of Rochester	1976
B.A.; Applied Mathematics, University of Rochester	1976
M.A.; Astronomy, Harvard University	1980
Ph.D.; Astronomy, Harvard University	1980

CURRENT STATUS AT THE UNIVERSITY OF SASKATCHEWAN:

Professor, Department of Physics and Engineering Physics (tenured)

PROFESSIONAL ORGANIZATIONS:

American Astronomical Society

Nominating Committee, Member 1997-2000

Warner/Pierce Prize Committee, Member 1994-1997

American Physical Society

Executive Committee (elected); Topical Interest Group in Plasma Astrophysics 2001-2004

EMPLOYMENT HISTORY:

1980-1982	Research Assistant, Department of Astrophysical Sciences, Princeton University
1982-1984	Lecturer; Department of Astronomy, University of Texas at Austin
1984-1988	Assistant Professor, Department of Astronomy, University of Texas at Austin
1988-1993	Associate Professor (tenured), Department of Astronomy, University of Texas at Austin

1993-1998 Professor, Department of Astronomy, University of Texas at Austin
 1997-1998 Visiting Professor, Department of Physics, Massachusetts Institute of Technology
 1998-2007 Professor, Department of Physics and Astronomy, Johns Hopkins University
 1999-2002 Director, Center for Astrophysical Sciences, Johns Hopkins University
 2007-2012 Professor, Department of Physics and Astronomy, McMaster University
 2012- Professor, Department of Physics and Engineering Physics, The University of Saskatchewan

ORGANIZATION OF SCIENTIFIC MEETINGS:

1990 Disk Days, Austin, Texas - Chair, Organizing Committee
 1993 Workshop on Interacting Binary Stars (Astronomical Society of the Pacific), San Diego, California
 - Scientific Organizing Committee
 2002 Ringberg Workshop on Astro-Plasma Physics, Munich, German - Scientific Organizing Committee
 2006 Harry Petschek Symposium on Magnetic Reconnection, College Park, Maryland -Scientific
 Organizing Committee
 2007 Topical Session of the 210th Meeting of the American Astronomical Society “Turbulence in Diffuse
 Astrophysical Environments” - Organizer
 2008 Magnetic Fields in the Universe II: From Laboratory and Stars to the Primordial Universe, Cozumel,
 Mexico - Scientific Organizing Committee
 2011 6th Korean Astrophysics Workshop on Fundamental Processes of Astrophysical Turbulence, Pohang,
 Korea – Scientific Organizing Committee
 2014 Workshop “Turbulence: In the Sky as on the Earth”, International Institute of Physics (IIP), Natal,
 Brazil, October 6th -16th

EDITORIAL ACTIVITIES:

1995-1997 Divisional Associate Editor, Physical Review Letters
 1997-2004 Science Editor, The Astrophysical Journal
 2003- Associate Editor, The Journal of Turbulence
 2004-2006 Associate Editor-in-Chief, The Astrophysical Journal
 2006- Editor-in-Chief, The Astrophysical Journal

REFEREEING AND REVIEWS:

Journals (lower limits only):

Annals of Physics – in excess of 2 papers
 Astronomy and Astrophysics – in excess of 10 papers
 Astroparticle Physics – in excess of 1 paper
 The Astrophysical Journal – in excess of 81 papers (exclusive of editorial duties)
 The Astrophysical Journal Letters – in excess of 26 papers
 European Physical Journal – at least once
 Geophysical and Astrophysical Fluid Dynamics – in excess of 3 papers
 Monthly Notices of the Royal Astronomical Society – in excess of 17 papers
 Nature – in excess of 11 papers
 Nonlinear Processes in Geophysics – at least once
 Physical Review D – in excess of 62 papers
 Physical Review Letters – in excess of 104 (may include some editorial cases)
 Physics Letters A – at least once
 Physics of Plasmas – in excess of 4 papers
 Proceedings of the Astronomical Society of Japan – in excess of 4 papers

Foundations:

Alfred P. Sloan Foundation – member of the advisory committee on Sloan Research Foundation Fellowships in Physics 2009-2015.

Funding Agencies:

Department of Energy (USA):

INCITE review panels in 2009, 2010, 2011

National Science Foundation (USA):

Review Panels in 2000, 2002, 2004 and 2009

29 individual grant reviews

National Aeronautics and Space Administration (USA):

Review Panels in 1999 and 2001 (Astrophysics Theory Program)

7 individual grant reviews

Miscellaneous: Occasional grant reviews for U.S. Civilian Research and

Development Foundation for the Independent States of the Former Soviet Union (3),

CalSpace (2), Israeli Science Foundation, and the Research Grants Council of Hong Kong

AREAS OF RESEARCH INTEREST:

- a) Magnetic Reconnection
- b) Astrophysical Dynamos
- c) Magnetohydrodynamic Turbulence
- d) Shock Wave Instabilities
- e) Early Universe
- f) Cosmic Microwave Background

HONOURS:

Presidential Young Investigator – National Science Foundation (USA)	1985
Alfred P. Sloan Fellow	1986
Helen P. Warner Prize - American Astronomical Society	1990
Fellow of the American Physical Society	2002

COURSES TAUGHT (last five years):

McMaster University:

Spring 2009 Physics 746 Electromagnetism (graduate)

Spring 2010 Physics 746 Electromagnetism (graduate)

Spring 2011 Physics 746 Electromagnetism (graduate)

Spring 2012 Physics 763 High Energy Astrophysics (graduate)

Spring 2012 Origins 3B03 Stellar Evolution (undergraduate)

The University of Saskatchewan:

Spring 2013 Astronomy 103 Introduction to Stellar Astronomy (undergraduate)

Spring 2014 Astronomy 103 Introduction to Stellar Astronomy (undergraduate)

SUPERVISORSHIPS:

Doctoral:

1987 Seok Jae Park

1988 Dongsu Ryu

1989 Gary Bust

1990 Hugh Harleston Lopez-Espino

1992 Jai-chan Hwang

1992 Hye Rim Noh

1992 Insu Yi
 1993 Min Huang
 1994 Suhail Farooqui
 1994 Shan Luo
 1998 Dian Curran
 2000 Pin-Gao Gu
 2000 Jungyeon Cho
 2010 Dmytro Shapovalov
 Benjamin Jackel (in progress)
 Amir Jafari (in progress)

RESEARCH FUNDING (last five years):

<u>Date</u>	<u>Source</u>	<u>Amount</u>	<u>Purpose</u>
2005-2009	National Science Foundation (USA) Group Grant (5 Senior investigators)	2,165,860	Exploring the Lagrangian Structure of Complex Flows with 100 Terabyte Datasets
2008-2011	National Science & Engineering Research Council (Canada)	29,450/annum	Astrophysical Fluid Dynamics
2012-2017	National Science & Engineering Research Council (Canada)	51,000/annum	Magnetic Field Evolution in Astrophysics

PUBLICATIONS:

Peer Reviewed Journal Articles

Vishniac, E. T., 1978, "A necessary condition for equilibrium in stellar systems with a continuous mass spectrum", ApJ, 223, 986-990

Press, W. H. and Vishniac, E. T., 1979, "Production of new cosmological perturbations during the radiation-dominated ERA", Natur, 279, 137-139

Press, W. H. and Vishniac, E. T., 1980, "Propagation of adiabatic cosmological perturbations through the ERA of matter-radiation decoupling", ApJ, 236, 323-334

Press, W. H. and Vishniac, E. T., 1980, "Tenacious myths about cosmological perturbations larger than the horizon size", ApJ, 239, 1-11

Vishniac, E. T., 1982, "Nonlinear effects on cosmological perturbations. I - The evolution of adiabatic perturbations. II - The production of isothermal perturbations by a primordial sound spectrum", ApJ, 253, 446-469

Vishniac, E. T., 1982, "Nonlinear Effects on Cosmological Perturbations - Part Two - the Production of Isothermal Perturbations by a Primordial Sound Spectrum", ApJ, 253, 457-

- Vishniac, E. T., 1982, "Relativistic collisionless particles and the evolution of cosmological perturbations", *ApJ*, 257, 456-472
- Vishniac, E. T., 1983, "Why weakly non-linear effects are small in a zero-pressure cosmology", *MNRAS*, 203, 345-349
- Vishniac, E. T., 1983, "The dynamic and gravitational instabilities of spherical shocks", *ApJ*, 274, 152-167
- Vishniac, E. T., 1983, "Entropy generation and limits on the anisotropy of the early universe", *MNRAS*, 205, 675-681
- Vishniac, E. T., Ostriker, J. P., and Bertschinger, E., 1985, "Explosions in the early universe", *ApJ*, 291, 399-416
- Olive, K. A., Seckel, D., and Vishniac, E., 1985, "Recent heavy-particle decay in a matter-dominated universe", *ApJ*, 292, 1-11
- Ostriker, J. P. and Vishniac, E. T., 1986, "Generation of microwave background fluctuations from nonlinear perturbations at the ERA of galaxy formation", *ApJ*, 306, L51-L54
- Ostriker, J. P. and Vishniac, E. T., 1986, "Effect of gravitational lenses on the microwave background, and 1146+111B,C", *Natur*, 322, 804-
- Vishniac, E. T., Olive, K. A., and Seckel, D., 1987, "Cosmic strings and inflation.", *NuPhB*, 289, 717-734
- Thompson, K. L. and Vishniac, E. T., 1987, "The effect of spherical voids on the microwave background radiation", *ApJ*, 313, 517-522
- Ryu, D. and Vishniac, E. T., 1987, "The growth of linear perturbations of adiabatic shock waves", *ApJ*, 313, 820-841
- Vishniac, E. T. and Bust, G. S., 1987, "Were the Lyman-alpha clouds formed from shocks?", *ApJ*, 319, 14-27
- Vishniac, E. T., 1987, "Reionization and small-scale fluctuations in the microwave background", *ApJ*, 322, 597-604
- Ryu, D. and Vishniac, E. T., 1988, "A linear stability analysis for wind-driven bubbles", *ApJ*, 331, 350-358
- Ponce, G. A. and Vishniac, E. T., 1988, "Cosmic string shocks and microwave spectral distortions", *ApJ*, 332, 57-66

- Park, S. J. and Vishniac, E. T., 1988, "The evolution of the central black hole in an active galactic nucleus. I - Evolution with a constant mass influx", *ApJ*, 332, 135-140
- Chiang, W.-H., Ryu, D., and Vishniac, E. T., 1988, "A model for the evolution of the intergalactic medium", *PASP*, 100, 1386-1392
- Ryu, D., Vishniac, E. T., and Chiang, W.-H., 1989, "A model for the distribution of dark matter, galaxies, and the intergalactic medium in a cold dark matter-dominated universe", *NYASA*, 571, 228-238
- Park, S. J. and Vishniac, E. T., 1989, "An axisymmetric nonstationary model of the central engine in an active galactic nucleus. I - Black hole electrostatics", *ApJ*, 337, 78-83
- Vishniac, E. T. and Ryu, D., 1989, "On the stability of decelerating shocks", *ApJ*, 337, 917-926
- Holcomb, K. A., Park, S. J., and Vishniac, E. T., 1989, "Formation of a 'child' universe in an inflationary cosmological model", *PhRvD*, 39, 1058-1066
- Chiang, W.-H., Ryu, D., and Vishniac, E. T., 1989, "Evolution of the intergalactic medium in a cold dark matter-dominated universe", *ApJ*, 339, 603-618
- Vishniac, E., 1989, "Cosmology - Making Light of Gravity", *Natur*, 339, 579-
- Hwang, J.-C., Vishniac, E. T., and Shapiro, P. R., 1989, "The gravitational instability of collisionless particles in a cosmological self-similar shell", *ApJ*, 346, 12-27
- Vishniac, E. T. and Diamond, P., 1989, "A self-consistent model of mass and angular momentum transport in accretion disks", *ApJ*, 347, 435-447
- Park, S. J. and Vishniac, E. T., 1989, "An axisymmetric, nonstationary model of the central engine in an active galactic nucleus. II - Accretion disk electrostatics", *ApJ*, 347, 684-687
- Hwang, J.-C. and Vishniac, E. T., 1990, "Analyzing cosmological perturbations using the covariant approach", *ApJ*, 353, 1-20
- Park, S. J. and Vishniac, E. T., 1990, "The evolution of the central black hole in an active galactic nucleus. II - Evolution with an exponentially decreasing mass influx", *ApJ*, 353, 103-107

- Ryu, D., Vishniac, E. T., and Chiang, W.-H., 1990, "A model for the distribution of the intergalactic medium", *ApJ*, 354, 389-399
- Vishniac, E. T., 1990, "The growth rate of a dipole disturbance in an Einstein-De Sitter universe", *ApJ*, 359, 1-3
- Park, S. J. and Vishniac, E. T., 1990, "An axisymmetric, nonstationary electrodynamic model of the central engine in an active galactic nucleus.", *NCimB*, 105, 907-920
- Vishniac, E. T., Jin, L., and Diamond, P., 1990, "Dynamo action by internal waves in accretion disks", *ApJ*, 365, 648-659
- Insu, Y., Vishniac, E. T., and Mineshige, S., 1991, "Generation of non-Gaussian fluctuations during chaotic inflation.", *PhRvD*, 43, 362-368
- Yi, I., Vishniac, E. T., and Mineshige, S., 1991, "Generation of non-Gaussian fluctuations during chaotic inflation", *PhRvD*, 43, 362-368
- Ryu, D. and Vishniac, E. T., 1991, "The dynamic instability of adiabatic blast waves", *ApJ*, 368, 411-425
- Duncan, R. C., Vishniac, E. T., and Ostriker, J. P., 1991, "Expansion-cooled Lyman-alpha clouds", *ApJ*, 368, L1-L5
- Park, S. J. and Vishniac, E. T., 1991, "Are hypernovae detectable?", *ApJ*, 375, 565-567
- Vishniac, E. T., 1991, "A model for variability of AGN", *PASP*, 103, 886-
- Vishniac, E. T., Jin, L., and Diamond, P. H., 1991, "Dynamoes and angular momentum transport in accretion disks", *PhFIB*, 3, 2374-2378
- Lightman, A., Brawer, R., and Vishniac, E. T., 1991, "Origins: The Lives and Worlds of Modern Cosmologists", *AmJPh*, 59, 861-861
- Hwang, J.-C. and Vishniac, E. T., 1991, "Gauge-invariant joining conditions for cosmological perturbations", *ApJ*, 382, 363-368
- Noh, H., Vishniac, E. T., and Cochran, W. D., 1991, "Gravitational instabilities in a proto-planetary disk", *ApJ*, 383, 372-379
- Yi, I. and Vishniac, E. T., 1992, "Stochastic Scaling Effect and Statistics of Cosmological Density Fluctuations", *PKAS*, 7, 51-61

Yi, I., Kim, S.-W., Vishniac, E. T., and Wheeler, J. C., 1992, "Disk instability and the time-dependent X-ray emission from the intermediate polar GK Persei", *ApJ*, 391, L25-L28

Insu, Y. and Vishniac, E. T., 1992, "Scaling solution for cosmological fluctuations and large-scale structure.", *PhRvD*, 45, 3441-3446

Yi, I. and Vishniac, E. T., 1992, "Scaling solution for cosmological fluctuations and large-scale structure", *PhRvD*, 45, 3441-3446

Harleston, H. and Vishniac, E. T., 1992, "Numerical treatment of the spherically symmetric general-relativistic Boltzmann equation for massless and massive particles", *PhRvD*, 45, 4458-4472

Noh, H., Vishniac, E. T., and Cochran, W. D., 1992, "An examination of the $M = 1$ instability in a low-mass protoplanetary disk", *ApJ*, 397, 347-352

Vishniac, E. T. and Diamond, P., 1992, "Local magnetohydrodynamic instabilities and the wave-driven dynamo in accretion disks", *ApJ*, 398, 561-568

Yi, I. and Vishniac, E. T., 1993, "Inflationary stochastic dynamics and the statistics of large-scale structure", *ApJS*, 86, 333-364

Yi, I. and Vishniac, E. T., 1993, "Stochastic analysis of the initial condition constraints on chaotic inflation", *PhRvD*, 47, 5280-5294

Yi, I. and Vishniac, E. T., 1993, "Scalar field quantum fluctuations and fine-tuning in chaotic inflationary models", *PhRvD*, 47, 5295-5303

Yi, I. and Vishniac, E. T., 1993, "Simple estimate of the statistics of large scale structure", *PhRvD*, 48, 950-953

Luo, S. and Vishniac, E. T., 1993, "Can Extra Power Explain Periodicity on Large Scales?", *ApJ*, 415, 450-

Park, S. J. and Vishniac, E. T., 1993, "Evolution of Active Galactic Nuclei based on the Unified Theory", *PKAS*, 8, 179-183

Zhang, W., Diamond, P. H., and Vishniac, E. T., 1994, "Dynamics of the magnetic shearing instability and magnetohydrodynamic turbulence in accretion disks. 1: Vertical magnetic field", *ApJ*, 420, 705-720

Park, S. J. and Vishniac, E. T., 1994, "An upper limit to the electrodynamic power output from a thin accretion disk around a black hole", *ApJ*, 426, 131-134

Vishniac, E. T., 1994, "Nonlinear instabilities in shock-bounded slabs", ApJ, 428, 186-208

Noh, H., Vishniac, E. T., and Cochran, W. D., 1994, "Gravitational instabilities in a proto-planetary disk including the effects of magnetic fields", ApJ, 428, 275-283

Yi, I. and Vishniac, E. T., 1994, "The hard X-ray emission spectra from accretion columns in intermediate polars", ApJ, 435, 829-839

Vishniac, E. T., 1995, "A Model for the Distribution of Magnetic Flux in High Beta MHD Turbulence", LNP, 462, 265-

Vishniac, E. T., 1995, "Linear and Nonlinear Waves in Shock-Bounded Slabs", NYASA, 773, 70-79

Luo, S. and Vishniac, E., 1995, "Three-dimensional shape statistics: Methodology", ApJS, 96, 429-460

Luo, S. and Vishniac, E., 1995, "Bayesian approaches to testing the nature of primordial density fluctuation", ApJ, 443, 469-478

Vishniac, E. T., 1995, "The Dynamics of Flux Tubes in a High- beta Plasma. I. A General Description", ApJ, 446, 724- 740

Vishniac, E. T., 1995, "The Dynamics of Flux Tubes in a High- beta Plasma. II. Buoyancy in Stars and Accretion Disks", ApJ, 451, 816- 824

Vishniac, E. T. and Zhang, C., 1996, "The Growth Rate of Tidally Excited Waves in Accretion Disks", ApJ, 461, 307- 319

Ryu, D., Goodman, J., and Vishniac, E. T., 1996, "Global Aspects of Elliptical Instability in Tidally Distorted Accretion Disks", ApJ, 461, 805- 811

Luo, S., Vishniac, E. T., and Martel, H., 1996, "Three-dimensional Shape Statistics: Applications", ApJ, 468, 62- 74

Park, S. J. and Vishniac, E. T., 1996, "The Variability of Active Galactic Nuclei and the Radial Transport of Vertical Magnetic Flux", ApJ, 471, 158- 163

Vishniac, E. T. and Wheeler, J. C., 1996, "The Speed of Cooling Fronts and the Functional Form of the Dimensionless Viscosity in Accretion Disks", ApJ, 471, 921- 929

- Vishniac, E. T. and Brandenburg, A., 1997, "An Incoherent α - Ω Dynamo in Accretion Disks", ApJ, 475, 263- 274
- Vishniac, E. T. and Zhang, C., 1997, "The Growth Rate of Tidally Excited Waves in Accretion Disks: Erratum", ApJ, 477, 516- 517
- Valinia, A., Shapiro, P. R., Martel, H., and Vishniac, E. T., 1997, "Gravitational Instability in Collisionless Cosmological Pancakes", ApJ, 479, 46- 69
- Yi, I., Wheeler, J. C., and Vishniac, E. T., 1997, "Torque Reversal in Accretion-powered X-Ray Pulsars", ApJ, 481, L51- L54
- Vishniac, E. T., 1997, "The Structure of Cooling Fronts in Accretion Disks", ApJ, 482, 414- 419
- Yi, I., Wheeler, J. C., and Vishniac, E. T., 1997, "Torque Reversal in Accretion-powered X-Ray Pulsars: Erratum", ApJ, 491, L93- L93
- Vishniac, E. T. and Lazarian, A., 1999, "Reconnection in the Interstellar Medium", ApJ, 511, 193-203
- Yi, I. and Vishniac, E. T., 1999, "Spectral Transition and Torque Reversal in X-Ray Pulsar 4U 1626-67", ApJ, 516, L87-L90
- Lazarian, A. and Vishniac, E. T., 1999, "Reconnection in a Weakly Stochastic Field", ApJ, 517, 700-718
- Gu, P.-G., Vishniac, E. T., and Cannizzo, J. K., 2000, "Thermal Equilibrium Curves and Turbulent Mixing in Keplerian Accretion Disks", ApJ, 534, 380-397
- Cho, J. and Vishniac, E. T., 2000, "The Generation of Magnetic Fields through Driven Turbulence", ApJ, 538, 217-225
- Cho, J. and Vishniac, E. T., 2000, "The Anisotropy of Magnetohydrodynamic Alfvénic Turbulence", ApJ, 539, 273-282
- Vishniac, E. T. and Cho, J., 2001, "Magnetic Helicity Conservation and Astrophysical Dynamos", ApJ, 550, 752-760
- Cho, J., Lazarian, A., and Vishniac, E. T., 2002, "Simulations of Magnetohydrodynamic Turbulence in a Strongly Magnetized Medium", ApJ, 564, 291-301
- Cho, J., Lazarian, A., and Vishniac, E. T., 2002, "New Regime of Magnetohydrodynamic Turbulence: Cascade below the Viscous Cutoff", ApJ, 566, L49-L52

- Cho, J., Lazarian, A., and Vishniac, E. T., 2003, "MHD Turbulence: Scaling Laws and Astrophysical Implications", LNP, 614, 56-98
- Vishniac, E. T., Lazarian, A., and Cho, J., 2003, "Problems and Progress in Astrophysical Dynamos", LNP, 614, 376-401
- Cho, J., Lazarian, A., and Vishniac, E. T., 2003, "Ordinary and Viscosity-damped Magnetohydrodynamic Turbulence", ApJ, 595, 812-823
- Cannizzo, J. K., Gehrels, N., and Vishniac, E. T., 2004, "A Numerical Gamma-Ray Burst Simulation Using Three-Dimensional Relativistic Hydrodynamics: The Transition from Spherical to Jetlike Expansion", ApJ, 601, 380-390
- Lazarian, A., Vishniac, E. T., and Cho, J., 2004, "Magnetic Field Structure and Stochastic Reconnection in a Partially Ionized Gas", ApJ, 603, 180-197
- Gu, P.-G., Lin, D. N. C., and Vishniac, E. T., 2004, "Drag Instability", Ap&SS, 292, 261-265
- Araya-Gôchez, R. A. and Vishniac, E. T., 2004, "Radiative heat conduction and the magnetorotational instability", MNRAS, 355, 345-351
- Smith, M. A., Henry, G. W., and Vishniac, E., 2006, "Rotational and Cyclical Variability in γ Cassiopeia", ApJ, 647, 1375-1386
- Kennicutt, R. C., Jr., Vishniac, E., and Sneden, C., 2006, "Professional and Ethical Standards for the AAS Journals", ApJ, 652, 847-848
- Sneden, C., Kennicutt, R. C., Jr., and Vishniac, E., 2006, "Professional and Ethical Standards for the AAS Journals", ApJ, 652, L69-L70
- Kennicutt, R. C., Jr., Vishniac, E., and Sneden, C., 2006, "Professional and Ethical Standards for the AAS Journals", ApJS, 167, 101-102
- Vishniac, E. T., 2007, "Editorial Transitions 2007", ApJ, 654, 1-1
- Cannizzo, J.K., Gehrels, N. and Vishniac, E.T., 2008, "Glimm's method for relativistic hydrodynamics", ApJ, 680, 885-896
- Cho, J., Vishniac, E.T., Beresnyak, A., Lazarian, A., and Ryu, D., 2009, "Growth of Magnetic Fields Induced by Turbulent Motions", ApJ, 693, 1449-1461
- Vishniac, E.T. 2009, "The Saturation Limit of the Magnetorotational Instability", ApJ, 696, 1021-1028

Kowal, G., Lazarian, A., Vishniac, E.T. , and Otmianowska-Mazur, K. 2009, “Numerical Tests of Fast Reconnection in Weakly Stochastic Magnetic Fields”, ApJ, 700, 63-85

Kulpa-Dybel, K., Kowal, G., Otmianowska-Mazur, K., Lazarian, A., & Vishniac, E.T. 2010, “Reconnection in weakly stochastic B-fields in 2D”, Astronomy and Astrophysics, 514, id.A 26

Pang, Bijia, Pen, Ue-Li, & Vishniac, Ethan T., 2010 “Fast Magnetic Reconnection in Three-Dimensional Magnetohydrodynamic Simulations”, Physics of Plasmas, 17, 102302-102302-9

Shapovalov, Dmitry S., & Vishniac, Ethan T., 2011 “Simulations of Turbulent Dynamos Driven by the Magnetic Helicity Flux”, ApJ, 738, 66 (article ID #)

Eyink, Gregory L., Lazarian, Alex, & Vishniac, Ethan T., 2011, “Fast Magnetic Reconnection and Spontaneous Stochasticity”, ApJ 741, 51

Lazarian, A., Eyink, G.L. & Vishniac, E.T. 2012, “Relation of astrophysical turbulence and magnetic reconnection”, Ph.Pl. 19, 012105-012105-8

Kowal, G, Lazarian, A., Vishniac, E.T. & Otmianowska-Mazur, K. 2012, “Reconnection studies under different types of turbulence driving”, NPGeo 19, 297-314

Vishniac, E.T., Pillsworth, S., Eyink, G., Kowal, G, Lazarian, A. & Murray, S. 2012, “Reconnection current sheet structure in a turbulent medium”, NPGeo 19, 605-610

Eyink, Gregory, Vishniac, Ethan, Lalescu, Cristian, Aluie, Hussein, Kanov, Kalin, Bürger, Kai, Burns, Randal, Meneveau, Charles & Szalay, Alexander 2013, “Flux-freezing breakdown in high-conductivity magnetohydrodynamic turbulence”, Nature 497, 466-469

Vishniac, E.T. & Shapovalov, D. 2014, “Properties of Magnetic Helicity flux in turbulent dynamos”, ApJ 780, 144

Other, Including Proceedings of Meetings

Vishniac, E., 1986, "The shape of large scale structure in the universe.", Inner space/outer space. The interface between cosmology and particle physics, pp. 190-193

Ryu, D., Vishniac, E. T., and Chiang, W.-H., 1989, "Cold Dark Matter with Gas", Particle Astrophysics: Forefront Experimental Issues. Proceedings of a Workshop, held in Berkeley, CA, December 8-10, 1988. Edited by Eric B. Norman. Singapore: World Scientific Publ., 1989., p.94

Ryu, D., Vishniac, E. T., and Chiang, W.-H., 1989, "A model for the distribution of dark matter, galaxies, and the intergalactic medium in a cold dark matter - dominated universe.", 14th. Texas Symposium on Relativistic Astrophysics, p. 228 - 238

Holcomb, K. A., Park, S. J., and Vishniac, E. T., 1989, "The Formation of a 'child' Universe in an Inflationary Cosmological Model", *General Relativity and Gravitation*, proceedings of the 12th International Conference on General Relativity and Gravitation, held July 2-8, 1989, in Boulder, Colorado, USA, under the auspices of the International Society on General Relativity and Gravitation, 1989, p.635

Vishniac, E. T., Jin, L., and Diamond, P., 1991, "The origin of viscosity in thin accretion disks.", *Symposium in Celebration of the 50. Anniversary of McDonald Observatory of the University of Texas at Austin: Frontiers of stellar evolution*, p. 625

Yi, I., Vishniac, E. T., and Mineshige, S., 1991, "On the generation of non-Gaussian fluctuations during chaotic inflation.", *ASSL "IUPAP Conference on Primordial Nucleosynthesis and Evolution of Early Universe"*, 169, p. 589 - 590

Vishniac, E. T., Jin, L., and Diamond, P. H., 1991, "Dynamo Action by Internal Waves in Accretion Disks.", *Structure and Emission Properties of Accretion Disks*, Proceedings of IAU Colloq. 129, the 6th Institute d'Astrophysique de Paris (IAP) Meeting, held in Paris, France, 2-6 July, 1990. Edited by C. Bertout, S. Collin-Souffrin, and J. P. Lasota. Gif-sur-Yvette: Editions Frontieres, 1991., p.223

Huang, M. and Vishniac, E. T., 1993, "Linear Waves in a Non-Magnetic Thin Disk", *Cataclysmic Variables and Related Physics*, 2nd Technion Haifa Conference. Edited by O. Regev and Giora Shaviv. *Annals of the Israel Physical Society*, Volume 10. Bristol: Institute of Physics Pub.; Jerusalem: Israel Physical Society; New York: American Institute of Physics, 1993., p.291

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Invited Colloquia and Seminars (last five years)

February 2009 “From Little Acorns - The Magnetization of Galactic Disks” Colloquium at The University of Wisconsin, Madison, Wisconsin

March 2009 “From Little Acorns - The Magnetization of Galactic Disks” Invited talk at CIFAR meeting, Mont Tremblant, Canada

March 2009 “From Little Acorns - The Magnetization of Galactic Disks” Colloquium at the University of Michigan, Ann Arbor Michigan

May 2010 “Magnetic Helicity, Nonlinear Dynamos, and the Early Growth of Galactic Magnetic Fields” Seminar at Observatory of the Jagiellonian University in Cracow, Poland

December 2010 “Magnetic Reconnection in the Universe” – Colloquium at IUCAA, Pune India

December 2010 “The Physics of Large Scale Magnetic Fields in Astrophysical Objects” – Invited talk at the Chandrasekhar Centenary Conference in Bangalore, India

April 2011 “Magnetic Reconnection and the Evolution of Large Scale Magnetic Fields” – Colloquium at The University of Texas at Austin

July 2011 “How Do Astrophysical Dynamos Work?” – Invited talk at IHEDS meeting, Santa Fe, NM

- November 2011 “Magnetic Helicity and the Rapid Growth of Large Scale Magnetic Fields” – Invited talk at Korea Astrophysics Workshop 6, Pohang, South Korea
- February 2012 “Magnetic Helicity and the Rapid Growth of Large Scale Magnetic Fields” – Colloquium At The University of Saskatchewan, Saskatoon, SK
- April 2012 “Turbulent Magnetic Helicity Transport and the Rapid Growth of Large Scale Magnetic Fields” - Invited talk at Midwestern Magnetic Fields 2012, Madison WI
- April 2012 “Theory and Simulations of Reconnection in 3D Turbulence” – Invited talk at the Center for Magnetic Self-Organization Workshop, Madison WI
- November 2012 “Spontaneous Stochasticity, Fast Reconnection, and the Failure of Flux-Freezing in Magnetized Turbulence” – Applied Math Colloquium at The University of Saskatchewan, Saskatoon SK
- February 2013 “Magnetic Helicity Conservation and the Dynamo Process” – Invited talk at Magnetic Fields in the Universe IV, Playa Del Carmen, Mexico
- May 2013 “The Magnetic Environment of Black Holes” – Invited talk at Black Holes IX, Saskatoon SK
- July 2013 “Reconnection and Diffusion in Turbulent Media” – Invited talk at “Festival de Theorie” in Aix-en-Provence, France
- August 2013 “Reconnection and Diffusion in Turbulent Media” – Invited talk at “TeV Jets: Astrophysical Particle Acceleration”, Santa Fe, NM
- November 2013 “Solar Rotation and the Dynamo Problem” – Invited talk at “400 Years of Stellar Rotation”, Natal Brazil
- February 2014 “The Dynamics of Large Scale Magnetic Fields” – Prairie Seminars at The University of Manitoba, The University of Winnipeg, and Brandon University
- February 2014 “The Dynamics of Large Scale Magnetic Fields” – Seminar at the Institute for Advanced Study, Princeton NJ
- May 2014 “Driving the dynamo via magnetic helicity flux: how differential rotation makes large scale magnetic fields” – Colloquium at The University of Colorado at Boulder
- October 2014 “Turbulence and the Magnetic Dynamo” invited review talk for a workshop “Turbulence: In the Sky as on the Earth”, International Institute of Physics (IIP), Natal, Brazil
- October 2014 “Magnetic Helicity and the Galactic Dynamo” invited talk at “Cosmic Magnetic Fields: current knowledge and the future ideas”, CMF Krakow.