

Bin Zhang

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Current Position

Position Title:

Current Academic Rank: Associate Professor

Rank Since: Summer 2005

Credentials

Degrees:

Doctor of Philosophy, Physics, Columbia University, 1998

Master of Philosophy, Physics, Columbia University, 1995

Master of Arts, Physics, Columbia University, 1994

Bachelor of Science, Physics, Peking University, 1990

Scholarly Contributions and Creative Productions

Grants

Zhang, B., Jiang, H., & Su, H. (2012). Dynamics of Relativistic Heavy Ion Collisions. National Energy Research Scientific Computing Center.

Zhang, B., Jiang, H., & Su, H. (2011). Dynamics of Relativistic Heavy Ion Collisions. National Energy Research Scientific Computing Center.

Zhang, B., Jiang, H., & Su, H. (2010). Dynamics of Relativistic Heavy Ion Collisions. National Energy Research Scientific Computing Center.

Zhang, B., Jiang, H., & Su, H. (2009). Dynamics of Relativistic Heavy Ion Collisions. National Energy Research Scientific Computing Center.

Zhang, B., Jiang, H., & Su, H. (2008). Dynamics of Relativistic Heavy Ion Collisions. National Energy Research Scientific Computing Center.

Zhang, B., Jiang, H., & Su, H. (2007). Dynamics of Relativistic Heavy Ion Collisions. National Energy Research Scientific Computing Center.

Zhang, B. (2006). RUI: Dynamical aspects of Quark-Gluon Plasma production. National Science Foundation - 102694.

Zhang, B. (2010). RUI: Understanding Quark-Gluon Plasma properties via parton transport. National Science Foundation - 102000.

Journal Publications

Zhang, B., & Ma, G. (2011). Effects of final state interactions on charge separation in relativistic heavy ion collisions. Physics Letters B, 700, 39-43.

Zhang, B., & Wortman, W.A. (2010). Parton radiative processes and pressure isotropization in relativistic heavy ion collisions. Physics Letters B, 693, 24-27.

Zhang, B., Chen, L., & Ko, C. (2008). Evolution of the bulk properties of the hot dense matter in relativistic heavy ion collisions. Journal of Physics G: Nuclear and Particle Physics, 35, 65103.

Zhang, B. (2007). J/psi production from charm coalescence in relativistic heavy ion collisions. Physics Letters B, 647, 249-252.

Presentations

Zhang, B., & Ma, G. (2012). Charge azimuthal correlation and charge separation in relativistic heavy ion collisions. The 96th annual meeting of the Arkansas Academy of Science.

Zhang, B. (2012). Toward parton equilibration with improved parton interaction matrix elements. The 11th International Conference on Nucleus-Nucleus Collisions.

Ma, G., & Zhang, B. (2011). Effects of final state interactions on charge separation in relativistic heavy ion collisions. Quark Matter 2011.

Zhang, B., & Wortman, W.A. (2011). Effects of parton radiative processes on Quark-Gluon Plasma thermalization. Quark Matter 2011.

Zhang, B., & Wortman, W.A. (2010). Chemical and kinetic equilibrations via Radiative Parton Transport. International Nuclear Physics Conference 2010.

Zhang, B., & Wortman, W.A. (2010). Thermalization and memory effect in relativistic heavy ion collisions. The 94th Annual Meeting of the Arkansas Academy of Science.

Zhang, B. (2009). Kinetic equilibration from a radiative transport. 25th Winter Workshop on Nuclear Dynamics.

Zhang, B. (2009). Parton multiplication and kinetic equilibration. The 21st international conference on ultrarelativistic nucleus-nucleus collisions.

Zhang, B. (2009). Thermalization of Gluon-dominated matter. Gordon Research Conference in Nuclear Physics.

Zhang, B. (2009). Thermalization through parton transport. 10th international conference on nucleus-nucleus collisions (NN2009).

Zhang, B., Chen, L., & Ko, C. (2008). Isotropization of an equilibrating Quark-Gluon Plasma. 24th Winter Workshop on Nuclear Dynamics.

Zhang, B. (2008). Recent results from Parton Cascade/Microscopic transport. Hot Quarks 2008, workshop for young scientists on the physics of ultrarelativistic nucleus-nucleus collisions.

Zhang, B. (2007). Final state interactions and isotropization of the Quark-Gluon Plasma. 2007 RHIC/AGS annual users' meeting.

Zhang, B. (2007). Thermalization from A Multi-Phase Transport model. 2007 Gordon Research Conference on Nuclear Physics.

Poster Presentations

Zhang, B., & Ma, G. (2012). Charge azimuthal correlations at RHIC and LHC energies. Quark Matter 2012 International Conference.

Zhang, B. (2012). Toward radiative transport with improved parton interactions. Quark Matter 2012 International Conference.

Proceedings Publications

Zhang, B., & Wortman, W.A. (2011). Chemical and kinetic equilibrations via Radiative Parton Transport. Journal of Physics: Conference Series, 312, 12017.

Zhang, B. (2010). Kinetic equilibration from a radiative transport. Proceedings of 25th winter workshop on nuclear dynamics, 6-Jan.

Zhang, B. (2010). Thermalization through parton transport. Nuclear Physics A, 834, 279c-281c.

Zhang, B., Chen, L., & Ko, C. (2009). Pressure isotropization of an equilibrating quark-gluon plasma. Proceedings of the 24th winter workshop on nuclear dynamics, 231-235.

- Zhang, B. (2009). Recent results from parton-cascade/microscopic transport. *European Physical Journal C*, 62, 25-29.
- Li, R., Jiang, H., Su, H., Zhang, B., & Jenness, J. (2008). Adaptive and Fault Tolerant Simulation of Relativistic Particle Transport with Data-level Checkpointing. *Proceedings of 2008 IEEE 11th International Conference on Computational Science and Engineering*,
- Li, R., Jiang, H., Su, H., Zhang, B., & Jenness, J. (2008). Coordination Schemes in Distributed Simulation of Relativistic Particle Transport. *Proceedings of the 23rd ACM Symposium on Applied Computing 2008, Special Track on Advances in Computer Simulation*,
- Amesto, et al, N., & Zhang, B. (2008). Heavy-ion collisions at the LHC—Last call for predictions. *Journal of Physics G: Nuclear and Particle Physics*, 35, 54001.
- Li, R., Jiang, H., Su, H., Zhang, B., & Jenness, J. (2008). On Load Balancing Distributed Simulation of Relativistic Particle Transport. *Proceedings of PDPTA'08 - The 2008 International Conference on Parallel and Distributed Processing Techniques and Applications*,
- Li, R., Jiang, H., Su, H., Zhang, B., & Jenness, J. (2008). Parallel and Distributed Particle Collision Simulation with Decentralized Control. *Proceedings of GPC 2008, the 3rd International Conference on Grid and Pervasive Computing (Lecture Notes in Computer Science)*, 5036/2008, 244-255.
- Su, H., Jiang, H., & Zhang, B. (2007). An Empirical Study on Many-Particle Collision Algorithms. *Proceedings of the 22nd International Conference on Computers and Their Applications*, 17-Dec.
- Su, H., Jiang, H., & Zhang, B. (2007). Flexible speculative parallelization of many-particle collision simulation. *Proceedings of CAINE07, the 20th international conference on computer applications in industry and engineering*,
- Zhang, B. (2007). J/psi and charm transport at RHIC. *Nuclear Physics A*, 785, 249c-252c.
- Zhang, B. (2007). J/psi production from charm coalescence in relativistic heavy ion collisions. *International Journal of Modern Physics E*, 16, 2061-2065.
- Li, R., Jiang, H., Su, H., Zhang, B., & Jenness, J. (2007). Speculative and distributed simulation of many-particle collisions systems. *Proceedings of ICPADS 2007, the 13th international conference on parallel and distributed systems*,
- Li, R., Jiang, H., Su, H., Jenness, J., & Zhang, B. (2007). Speculative Parallelization of Many-Particle Collision Simulations. *Proceedings of PDPTA'07- The 2007 International Conference on Parallel and Distributed Processing Techniques and Applications*,
- Su, H., Jiang, H., & Zhang, B. (2007). Synchronization on speculative parallelization of many-particle collision. *Proceedings of ICCSA'07, International conference on computer science and applications, World congress on engineering & computer science 2007*,
- Jiang, H., Su, H., & Zhang, B. (2007). Toward Optimizing Particle-Simulation Systems. *Proceedings of the International Conference on Computational Science 2007*,
- Zhang, B. (2012). Toward parton equilibration with improved parton interaction matrix elements. *The 11th International Conference on Nucleus-Nucleus Collisions*,

Institutional Committees

University

Faculty Research Awards Committee (University) Fall 2009
Faculty Research Awards Committee (University) Spring 2010 - Fall 2010
Faculty Research Awards Committee (University) Spring 2011 - Fall 2011
Faculty Research Awards Committee (University) Spring 2012

Other Institutional Service

(Committee Chair) Physics Search Committee (University) Spring 2012
(Committee Member) Physics Program Committee (University) Spring 2012 - Fall 2012
(Committee Member) Promotion/Retention/Tenure Committee (University) Spring 2012 - Fall 2012
(Committee Chair) Physics Search Committee (University) Fall 2011
(Committee Member) Chemistry and Physics Chair Search Committee (University) Fall 2011
(Committee Member) Recruitment/Retention Committee (University) Spring 2011 - Fall 2011
(Committee Member) Promotion/Retention/Tenure Committee (University) Spring 2011 - Fall 2011
(Volunteer) ASU Foundation fund raising (University) Spring 2011
(Committee Member) Physics Program Committee (University) Spring 2011 - Fall 2011
(Committee Member) Physics Search Committee (University) Spring 2011
(Committee Member) Physics Search Committee (University) Fall 2010
(Committee Member) Physics Program Committee (University) Spring 2010 - Fall 2010
(Committee Member) Promotion/Retention/Tenure Committee (University) Spring 2010 - Fall 2010
(Committee Member) Recruitment/Retention Committee (University) Spring 2010 - Fall 2010
(Committee Member) Recruitment/Retention Committee (University) Spring 2009 - Fall 2009
(Committee Member) Promotion/Retention/Tenure Committee (University) Spring 2009 - Fall 2009
(Committee Member) Physics Search Committee (University) Spring 2008
(Committee Member) Promotion/Retention/Tenure Committee (University) Spring 2008 - Fall 2008
(Committee Member) Recruitment/Retention Committee (University) Spring 2008 - Fall 2008
(Committee Member) Physics Search Committee (University) Fall 2007
(Committee Member) Recruitment/Retention Committee (University) Spring 2007 - Fall 2007

Professional Service

Reviewer, Journal Article, Sri Lankan Journal of Physics Fall 2012
Reviewer, Journal Article, Journal of Physics: Conference Series Summer 2012 - Fall 2012

Reviewer, Journal Article, Journal of Arkansas Academy of Science Spring 2012 - Summer 2012

Reviewer, Journal Article, Physical Review D Spring 2011 - Fall 2011

Reviewer, Journal Article, Physical Review C Spring 2009 - Fall 2009

Teaching

Spring 2007 Courses:

PHYS 2034 001 - University Physics I

PHYS 3203 001 - Electromagnetic
Theory

Fall 2007 Courses:

PHYS 1101 001 - INTRO TO SPACE SCIENCE LAB

PHYS 1101 002 - INTRO TO SPACE SCIENCE LAB

PHYS 1103 001 - Introduction to Space Science

PHYS 2064 002 - General Physics II

PHYS 4693 001 - Research in Physics-Capstone

Spring 2008 Courses:

PHYS 2034 001 - University Physics I

PHYS 2044 001 - University Physics II

Fall 2008 Courses:

PHYS 1101 001 - INTRO TO SPACE SCIENCE LAB

PHYS 1103 001 - Introduction to Space Science

PHYS 3153 001 - Mechanics

Spring 2009 Courses:

PHYS 1103 001 - Introduction to Space
Science

Fall 2009 Courses:

PHYS 1101 001 - INTRO TO SPACE SCIENCE LAB

PHYS 1103 001 - Introduction to Space Science

Spring 2010 Courses:

PHYS 1101 001 - INTRO TO SPACE SCIENCE LAB

PHYS 1103 001 - Introduction to Space Science

PHYS 4553 001 - Principles of Quantum Mechanics

Fall 2010 Courses:

PHYS 3153 001 - Mechanics

PHYS 3303 001 - Modern Physics

Spring 2011 Courses:

PHYS 2044 001 - University Physics II

PHYS 3103 001 - Thermal Physics

Fall 2011 Courses:

PHYS 2133 001 - Survey of Physics for the Health
Professions

PHYS 3303 001 - Modern Physics

Spring 2012 Courses:

PHYS 2044 001 - University Physics II

PHYS 2064 003 - General Physics II

PHYS 4393 001 - Special Topics

PHYS 4693 002 - Research in Physics-Capstone

Fall 2012 Courses:

PHYS 2064 001 - GENERAL PHYSICS II

PHYS 2064 002 - GENERAL PHYSICS II