Adith Ramamurti

Dated: December 18, 2019

Contact Information

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Professional Employment

Research Physicist — Nov. 2018 - Present
Acoustics Division, U.S. Naval Research Laboratory,
Washington, DC

Education

Ph.D., Physics (Nuclear Theory) — Aug. 2013 - Nov. 2018
Stony Brook University, Stony Brook, NY
Advisor: Edward Shuryak
Dissertation: Recent progress in understanding the role of monopoles in QCD

A.B., Mathematical Physics; A.B., Music — Sep. 2009 - May 2013
Brown University, Providence, RI
Honors: *magna cum laude*
Advisor: Antal Jevicki
Senior Thesis: Quantization of symmetric spaces

Publications and Pre-prints

A. Ramamurti, *Application of machine learning in Bose-Einstein condensation critical-temperature analyses of path-integral Monte Carlo simulations*, arXiv:1912.00654 [cond-mat.stat-mech].

A. Ramamurti and D. C. Calvo, *Multisector parabolic equation approach to compute acoustic scattering by noncanonically shaped impenetrable objects*, Physical Review E (accepted, in production), arXiv:1912.02406 [physics.comp-ph].

A. Ramamurti and E. Shuryak, *Extending the hydrodynamical description of heavy-ion collisions to the "outer edge" of the fireball*, arXiv:1811.03655 [hep-ph].

A. Ramamurti, E. Shuryak, and I. Zahed, *Are there monopoles in the quark-gluon plasma?*, Physical Review D **97**, 114028, arXiv:1802.10509 [hep-ph].

A. Ramamurti and E. Shuryak, *Chiral symmetry breaking and monopoles in gauge theories*, Physical Review D **100**, 016007, arXiv:1801.06922 [hep-ph].

A. Ramamurti and E. Shuryak, *Role of QCD monopoles in jet quenching*, Physical Review D **97**, 016010, arXiv:1708.04254 [hep-ph].

A. Ramamurti and E. Shuryak, *An effective model of QCD monopoles*, Nuclear Physics A **967**, 868-871, arXiv:1704.04467 [hep-ph].

A. Ramamurti and E. Shuryak, *Effective model of QCD magnetic monopoles from numerical study of one- and two-component Coulomb quantum Bose gases*, Physical Review D **95**, 076019, arXiv:1702.07723 [hep-ph].

I. Iatrakis, A. Ramamurti, and E. Shuryak, *Pomeron interactions from the Einstein-Hilbert action*, Physical Review D **94**, 045005, arXiv:1602.05014 [hep-ph].

I. Iatrakis, A. Ramamurti, and E. Shuryak, *Collective string interactions in AdS/QCD and high-multiplicity pA collisions*, Physical Review D **92**, 014011, arXiv:1503.04759 [hep-ph].

Talks and Conferences

178th Meeting of the Acoustical Society of America — Dec. 2019
Coronado, CA
Application of a multi-sector parabolic equation approach to compute acoustic scattering by non-canonically shaped impenetrable objects

Gauge Topology III: From Lattice to Colliders — May 2018
European Center for Theoretical Physics, Trento, IT
Recent progress in understanding the role of monopoles in QCD

JETSCAPE Winter School and Workshop — Jan. 2018
Lawrence Berkeley National Lab, Berkeley, CA
The role of QCD monopoles in jet quenching

Stony Brook Nuclear Theory Seminar — Nov. 2017
Stony Brook University, Stony Brook, NY
The role of QCD monopoles in jet quenching

XXVIth International Conference on Ultrarelativistic Nucleus-Nucleus Collisions (Quark Matter 2017) — Feb. 2017
Chicago, IL
An effective model of QCD monopoles

Gauge Field Topology Workshop — Aug. 2015
Simons Center for Geometry and Physics, Stony Brook, NY
QCD strings and their interactions from the holographic perspective

Honors and Awards

Jerome and Isabella Karle Fellowship — Nov. 2018 - Nov. 2020
U.S. Naval Research Laboratory, Washington, DC

Mildred G. Widgoff Prize for Excellence in Thesis Preparation — May 2013
Physics Department, Brown University, Providence, RI

Other Employment

Graduate Research Assistant — Jan. 2015 - Nov. 2018
Dept. of Physics and Astronomy, Stony Brook University — May 2015 - Aug. 2015
Stony Brook, NY — Mar. 2014 - Aug. 2014

Graduate Teaching Assistant — Aug. 2015 - Dec. 2015
Dept. of Physics and Astronomy, Stony Brook University — Aug. 2014 - May 2015
Stony Brook, NY

Undergraduate Research Assistant — May 2012 - Aug. 2012
Physics Department, Brown University — May 2011 - Aug. 2011
Providence, RI

Physical Science Aid — Dec. 2010 - Jan. 2011
Acoustics Division, U.S. Naval Research Laboratory — Jun. 2008 - Aug. 2008

Washington, DC Jun. 2007 - Aug. 2007

Skills

Programming Languages and Software

- Expert: C++, Python, Unix shell (bash, tcsh), Mathematica, LaTeX
- Intermediate: Fortran, Java, MATLAB, COMSOL

Programming Techniques

- Expert: Parallelization (MPI, openMP), Monte Carlo methods
- Intermediate: Machine learning, neural networks