

Veronica Dexheimer
Department of Physics
Kent State University
Kent, OH 44240
United States

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Curriculum Vitae

Personal Data

Name: Veronica Antocheviz Dexheimer Strickland
Date of Birth: 06/24/1981
Place: Porto Alegre, RS, Brasil
Nationality: Brazilian
Visa Status: US Green Card Holder

Languages

Fluent in English, Portuguese and Spanish
Basic knowledge in German

Current Academic Position

Assistant Professor at Kent State University
Since Jan 2013

Education

- 2006 – 2009
Ph.D. Physics
Advisers: Stefan Schramm and Horst Stoecker
Dissertation: Chiral Symmetry Restoration and Deconfinement in Neutron Stars
Frankfurt Institute for Advanced Studies, Johann Wolfgang Goethe University -
Frankfurt an Main, Germany
Scholarship: Buchmann Foundation
- 2003 – 2006
M.S. Physics
Advisers: Bardo Bodmann and Cesar Vasconcellos
Thesis: Nuclear Matter Compressibility in Neutron Stars
Universidade Federal do Rio Grande do Sul – Porto Alegre, RS, Brasil
Scholarship: CAPES

- 1999 – 2003
B.S. Physics
Universidade Federal do Rio Grande do Sul – Porto Alegre, RS, Brasil
- 1996 – 1998
High School
Colegio Leonardo da Vinci Beta – Porto Alegre, RS, Brasil
- 1988 – 1995
Elementary School
Instituicao Superior de Educacao Sevigne – Porto Alegre, RS, Brasil

Research Interests

- Nuclear Physics: Equation of state at high density and low temperature, High isospin asymmetric matter, Phase transitions
- Astrophysics: General relativity, Supernova explosions, Neutron stars, Hyperonic matter, Meson condensation, Proto-neutron stars, Star rotation, Quark stars, Stellar magnetic fields
- High Energy Physics: QCD phase diagram, Chiral symmetry restoration, Deconfinement to quark matter

Teaching Experience and Appointments

- 2013 –
Assistant Professor
Kent State University – Kent, OH, USA
- 2010 – 2012
Visiting Professor
Gettysburg College - Gettysburg, PA, USA
- 2009 – 2010
Adjunct Professor
Gettysburg College - Gettysburg, PA, USA
- 2009 – 2010
Research supervision of PhD student Torsten Schuerhoff
Frankfurt Institute for Advanced Studies - Frankfurt an Main, Germany
- 2005 – 2006
Research supervision of undergraduate student Mauricio Grohmann
Universidade Federal do Rio Grande do Sul – Porto Alegre, RS, Brasil

- 2004
Docent internship
Universidade Federal do Rio Grande do Sul – Porto Alegre, RS, Brasil

Classes Taught

- 2013
PHY 13002 (General College Physics II) – spring and fall
PHY 13012 (College Physics II) – spring and fall
PHY 21430 (Frontiers in Astronomy) – spring and fall
- 2012
PHY 103 (Elementary Physics I)
PHY 103 lab (Elementary Physics I Laboratory)
- 2011
PHY 103 (Elementary Physics I) - 2 sections
PHY 103 lab (Elementary Physics I Laboratory)
PHY 109 lab (Introductory Physics I Laboratory)
PHY 104 (Elementary Physics II)
PHY 104 lab (Elementary Physics II Laboratory)
PHY 110 lab (Introductory Physics II Laboratory)
- 2010
PHY 103 (Elementary Physics I) - 2 sections
MATH 105 (Calculus with Precalculus I)
PHY 104 lab (Elementary Physics II Laboratory)
PHY 110 lab (Introductory Physics II Laboratory)
- 2009
PHY 103 lab (Elementary Physics I Laboratory)

Publication List

E-Prints

- The influence of strong magnetic fields on proto-quark stars. V. Dexheimer, D.P. Menezes, M. Strickland. Oct 2012. e-Print: arXiv:1210.4526 [nucl-th].

Refereed Journal Articles

- Stability windows for proto-quark stars. V. Dexheimer, J.R. Torres, D.P. Menezes. Published in Eur. Phys. J. C (2013) 73: 2569.

- Non-congruence of the nuclear liquid-gas and deconfinement phase transitions. Matthias Hempel, Veronica Dexheimer, Stefan Schramm, Igor Iosilevskiy. Published in Phys. Rev. C88 (2013) 014906.
- Hybrid Stars in an SU(3) Parity Doublet Model. V. Dexheimer, J. Steinheimer, R. Negreiros, S. Schramm. Published in Phys. Rev. C87 (2013) 015804.
- Bulk Properties of a Fermi Gas in a Magnetic Field. Michael Strickland, Veronica Dexheimer, Debora P. Menezes. Published in Phys. Rev. D 86: 125032, 2012.
- Hybrid Stars in a Strong Magnetic Field. V. Dexheimer, R. Negreiros, S. Schramm. Published in Eur.Phys.J. A48: 189, 2012.
- Quark core impact on hybrid star cooling. Rodrigo Negreiros, V.A. Dexheimer, S. Schramm. Published in Phys.Rev. C85: 035805, 2012.
- Neutron Stars with Small Radii - the Role of Delta Resonances. Torsten Schurhoff, Stefan Schramm and Veronica Dexheimer. Published in Astrophys. Journ. Lett. 724: 74-77, 2010.
- Modeling Hybrid Stars with an SU(3) non-linear sigma model. Rodrigo Picanco Negreiros, V.A. Dexheimer and S. Schramm. Published in Phys. Rev. C 82: 035803, 2010.
- Kaon properties in (proto)neutron stars. Amruta Mishra, Arvind Kumar, Sambuddha Sanyal, V. Dexheimer and Stefan Schramm. Published in Eur. Phys. J. A 45: 169-177, 2010.
- Hydrodynamics with a chiral hadronic equation of state including quark degrees of freedom. J. Steinheimer, V. Dexheimer, H. Petersen, M. Bleicher, S. Schramm and H. Stoecker. Published in Phys. Rev. C 81: 044913, 2010.
- Novel Approach to Modeling Hybrid Stars. V.A. Dexheimer and S. Schramm. Published in Phys. Rev. C 81: 045201, 2010.
- Neutron stars within the SU(2) parity doublet model. V. Dexheimer, G. Pagliara, L. Tolos, J. Schaffner-Bielich and S. Schramm. Published in Eur. Phys. J. A 38: 105-113, 2008.
- Proto-Neutron and Neutron Stars in a Chiral SU(3) Model. V. Dexheimer and S. Schramm. Published in Astrophys. J. 683: 943–948, 2008.
- Nuclear matter and neutron stars in a parity doublet model. V. Dexheimer, S. Schramm and D. Zschesche. Published in Phys. Rev. C 77: 025803, 2008.
- Density Dependent Nuclear Matter Compressibility. V.A. Dexheimer, C.A.Z. Vasconcellos and B.E.J. Bodmann. Published in Phys.Rev. C 77: 065803, 2008.

Refereed Proceedings

- Compact Stars - How Exotic Can They Be? S. Schramm, V. Dexheimer, R. Negreiros, J. Steinheimer, T. Schuerhoff. To appear in the proceedings of Nuclear Physics: Present and Future May 2013, Boppard, Germany. e-Print: arXiv:1310.5804.
- Stability windows at finite temperature. J.R. Torres, D.P. Menezes, V. Dexheimer. To appear in the proceedings of Compact Stars in the QCD Phase Diagram III 12-15 Dec 2012, Guarujá, SP, Brazil. e-Print: arXiv:1308.2079 [nucl-th].
- Hyperon Stars in Strong Magnetic Fields. R.O. Gomes, V. Dexheimer, C.A.Z. Vasconcellos. To appear in the proceedings of Compact Stars in the QCD Phase Diagram III 12-15 Dec 2012, Guarujá, SP, Brazil. e-Print: arXiv:1307.7450 [nucl-th].
- Modeling Hybrid Stars in Quark-Hadron Approaches. S. Schramm, V. Dexheimer, R. Negreiros, T. Schuerhoff, J. Steinheimer. To appear in the proceedings of Compact Stars in the QCD Phase Diagram III 12-15 Dec 2012, Guarujá, SP, Brazil. e-Print: arXiv:1306.0989 [astro-ph.SR].

- Deconfinement to Quark Matter in Magnetars. V. Dexheimer, R. Negreiros, S. Schramm. Prepared for Extreme QCD 21-23 Aug 2012, Washington DC, USA. Published in J. Phys. Conf. Ser. 432 (2013) 012005.
- Modeling Hybrid Stars. V. Dexheimer, S. Schramm, J. Stone. Prepared for XII International Symposium on Nuclei in the Cosmos (NIC 2012) 5-10 Aug 2012, Cairns, Australia. Published in PoS NICXII (2012) 101.
- Deconfinement to Quark Matter in Neutron Stars - The Influence of Strong Magnetic Fields. V. Dexheimer, R. Negreiros, S. Schramm, M. Hempel. Prepared for XII Hadron Physics April, 22-27, 2012, Bento Goncalves, Brazil. Published in AIP Conf.Proc. 1520 (2013) 264-269.
- Nuclear matter and neutron stars in a quark-hadron model. Stefan Schramm, Rodrigo P. Negreiros, T. Schurhoff, Veronica Dexheimer. Prepared for 2nd International Symposium on Strong Electromagnetic Fields and Neutron Stars 5-7 May 2011, Varadero, Cuba. Published in Int.J.Mod.Phys. E20: 125-132, 2011.
- Structure and Cooling of Neutron and Hybrid Stars. S. Schramm, V. Dexheimer, R. Negreiros, T. Schurhoff, J. Steinheimer. To appear in the proceedings of Exciting Physics Symposium 2011, Makutsi, South Africa. e-Print: arXiv:1202.5113 [astro-ph.SR].
- Properties and Stability of Hybrid Stars. S. Schramm, R. Negreiros, J. Steinheimer, T. Schurhoff, V. Dexheimer. Prepared for Strangeness in Quark Matter 18-24 Sep 2011, Cracow, Poland. Published in Acta Phys.Polon. B43: 749-758, 2012.
- Dense Matter and Neutron Stars in Parity Doublet Models. S. Schramm, V. Dexheimer, R. Negreiros, J. Steinheimer. To appear in the proceedings of STARS2011, Havana, Cuba, 1 – 4 May 2011. e-Print: arXiv:1110.0609 [nucl-th].
- Nuclear matter, nuclei, and neutron stars in hadron and quark-hadron models. S. Schramm, V. Dexheimer, R. Negreiros, T. Schurhoff. To appear in the proceedings of Advances in Nuclear Physics in Our Time 28 Nov-2 Dec 2010, Goa, India. e-Print: arXiv:1102.2325 [nucl-th].
- Phase structure of strongly interacting matter and simulations of heavy-ion collisions using a quark-hadron model. S. Schramm J. Steinheimer, V. Dexheimer, H. Stocker. Prepared for International Conference on Strangeness in Quark Matter (SQM 2009) 27 Sep - 2 Oct 2009, Buzios, Brazil. Published in J.Phys.G G37: 094041, 2010.
- Compact Stars in Hadron and a Hadron- Quark Models. S. Schramm and V. Antocheviz Dexheimer. Prepared for 4th International Workshop on Astronomy and Relativistic Astrophysics 4-8 Oct 2009, Maresias, Brazil. Published in Int. J. Mod. Phys. D 19: 1455-1462, 2010.
- Chiral Symmetry Restoration and Deconfinement to Quark Matter in Neutron Stars. V.A. Dexheimer and S. Schramm. Prepared for Light-Cone 8-13 July 2009, Sao Jose dos Campos, Brazil. Published in Nucl. Phys. Proc. Suppl. 199: 319-324, 2010.
- Phase Structure in hadron-quark models and its implementation in heavy-ion simulations. S. Schramm, J. Steinheimer, V. A. Dexheimer. Prepared for 18th International Conference on Particles And Nuclei (PANIC 08) 9-14 Nov 2008, Eilat, Israel. Published in Nucl. Phys. A 827: 546, 2009.
- Neutron Stars as a Probe for Dense Matter. V. Dexheimer and S. Schramm. Prepared for International Conference on Particles And Nuclei (PANIC08) 9-14 Nov 2008, Eilat, Israel. Published in Nucl. Phys. A 827: 579, 2009.

- Proto-Neutron and Neutron Stars. V. Dexheimer, S. Schramm and H. Stoecker. To appear in the proceedings of International Workshop on Astronomy and Relativistic Astrophysics 2007 3-6 Oct 2007, Joao Pessoa, Brazil. e-Print: arXiv:0801.2523 [astro-ph].
- Parity Doublet Model applied to Neutron Stars. V. Dexheimer, S. Schramm and Horst Stoecker. To appear in the proceedings of EXOCT 2007: International Symposium on Exotic States of Nuclear Matter 11-15 Jun 2007, Catania, Italy. e-Print: arXiv:0710.3067 [astro-ph].
- Neutron Stars in a Chiral Model with Finite Temperature. V. Dexheimer, S. Schramm and H. Stoecker. Prepared for 3rd Nuclear Physics in Astrophysics Conference and 21st International Nuclear Physics Divisional Conference of the European Physical Society 26-31 Mar 2007, Dresden, Germany. Published in J. Phys. G 35: 014060, 2008.
- The Nuclear matter compressibility function in a parameterized coupling model. Veronica A. Dexheimer, Cesar A.Z. Vasconcellos and Bardo E.J. Bodmann. Prepared for International Workshop on Astronomy and Relativistic Astrophysics 2-5 Oct 2005, Natal, Brazil. Published in Int. J. Mod. Phys. D 16: 269-376, 2007.
- The role of the nuclear incompressibility in a relativistic mean field theory for neutron stars. V.A. Dexheimer, C.A.Z. Vasconcellos, B.E.J. Bodmann and M. Dillig. Prepared for 9th Hadron Physics and 7th Relativistic Aspects of Nuclear Physics 28 Mar - 3 Apr 2004, Angra dos Reis, Brazil. Published in AIP Conf. Proc. 739: 479-481, 2005.
- The Role of the nuclear matter compression modulus in neutron stars. V.A. Dexheimer, C.A.Z. Vasconcellos, M. Razeira and M. Dillig. Prepared for International Workshop on Astronomy and Relativistic Astrophysics 2-16 Oct 2003, Olinda, Brazil. Published in Int. J. Mod. Phys. D 13: 1519-1524, 2004.

Seminars presented

- “Massive Stars within Self-Consistent Approaches”. EMMI Rapid Reaction Task Force: Quark Matter in Compact Stars, Frankfurt am Main, Germany, October 2013 (invited).
- “The Influence of Strong Magnetic Fields on Neutron Stars and Proto-Neutron Stars”. Spring 2013 Meeting of the APS Ohio Section, Athens, OH, USA March 2013.
- “Magnetic Field Effects on the EOS at Finite Temperature”. NEOS 2012, Frankfurt am Main, Germany, November 2012.
- “Deconfinement to Quark Matter in Neutron Stars – The influence of Magnetic Fields”. XQCD 2012, Washington, DC, USA, August 2012.
- “Deconfinement to Quark Matter in Neutron Stars – The influence of Magnetic Fields”. ITA, Sao Jose dos Campos, Brazil, May 2012.
- “Deconfinement to Quark Matter in Neutron Stars – The influence of Magnetic Fields”. USP, Sao Paulo, Brazil, May 2012.
- “Deconfinement to Quark Matter in Neutron Stars – The influence of Magnetic Fields”. XII Hadron Physics, Bento Gonçalves, Brazil, April 2012.

- “Neutron Stars – A Laboratory in Space”. UFSC , Florianopolis, Brazil, April 2012.
- “Deconfinement to Quark Matter in Magnetars”. FIAS - Johann Wolfgang Goethe University, Frankfurt am Main, Germany, July 2011.
- “Deconfinement to Quark Matter in Magnetars”. Compstar 2011: Gravitational Waves and Electromagnetic Radiation from Compact Stars, Catania, Italy, May 2011.
- “Modeling Hybrid Stars”. EMMI workshop: Neutron Matter in Astrophysics: From Neutron Stars to the r-Process, GSI, Darmstadt, Germany, July 2010.
- “Quark Stars”. 30th Annual Central Pennsylvania Consortium Astronomers Meeting, Gettysburg, USA, April 2010.
- “Quark Stars”. Dickinson College, Carlisle, USA, March 2010.
- “A Novel Approach to Model Hybrid Stars”. Light-Cone 2009: Relativistic Hadronic and Particle Physics, Sao Jose dos Campos, Brazil, Jul 2009.
- “Chiral Symmetry Restoration and Deconfinement in Neutron Stars”. Institut fuer Theoretische Physik, Frankfurt am Main, Germany, May 2009.
- “The Physics of Neutron Stars”. Gettysburg College, Gettysburg, USA, Apr 2009.
- “Neutron Stars as a Probe for Dense Matter”. CompStar 2009: The crust of Compact Stars and Beyond, Coimbra, Portugal, Feb 2009.
- “Neutron Stars as a Probe for Dense Matter”. International Conference on Particles And Nuclei (PANIC08), Eilat, Israel, Nov 2008.
- “Chiral Symmetry Restoration in Neutron Stars”. Frankfurt Institute for Advanced Studies, Frankfurt am Main, Germany, June 2008.
- “Proto-Neutron and Neutron Stars”. CompStar 2008: The Complex Physics of Compact Stars, Ladek Zdroj, Poland, Feb 2008.
- “Neutron Star Cooling”. Institut fuer Theoretische Physik, Frankfurt am Main, Germany, Dec 2007.
- “Proto-Neutron and Neutron Stars”. International Workshop on Astronomy and Relativistic Astrophysics, Joao Pessoa, Brazil, Oct 2007.
- “Neutron Stars in a Chiral Model with Finite Temperature”. International Nuclear Physics Divisional Conference of the European Physical Society, Dresden, Germany, Mar 2007.
- “Neutron and Proto-Neutron Stars”. Frankfurt Institute for Advanced Studies, Frankfurt am Main, Germany, Feb 2007.
- “Determination of the Maximum Mass of Neutron Stars Through the Compression Modulus Using a New Model”. International Workshop on Astronomy and Relativistic Astrophysics, Natal, Brazil, Oct 2005.