

VITA

Dr. BHASKAR DUTTA

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Professor, Mitchell/Heep Chair of High Energy Physics, Director, Mitchell Institute for Fundamental Physics and Astronomy,

Department of Physics and Astronomy, Texas A& M University, College Station, TX, 77843-4242

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PREVIOUS POSITIONS:

- Associate Professor (2005-2009 (August)), Department of Physics and Astronomy, Texas A&M University.
- Assistant Professor (2002-2005 (July)), University of Regina, Regina, SK S4S 0A2, Canada.
- Post-Doctoral Research Associate (1998-2002), Department of Physics, Texas A&M University.
- Post-Doctoral Research Associate (1995-1998), Institute of Theoretical Sciences, University of Oregon, Eugene, OR 97403.

EDUCATION:

- Ph.D (Physics) Oklahoma State University, (Fall, 1990-Summer, 1995) .
- M.Sc (Physics) University of Calcutta, India, (1988-1990) (was placed in First class).
- B.Sc (Physics, Mathematics) Presidency College, Calcutta University, (1984-1987) (was placed in First class).

SPECIAL AWARDS AND HONORS:

- American Physical Society Fellow, 2020
- Holder of Mitchell-Heep Chair in High Energy Physics since 2019
- Distinguished Alumni Award, Oklahoma State University, 2017.
- Association of Former Students College-Level Distinguished Achievement Award in Teaching, 2012
- Selected an outstanding junior scientist in Canada by the Partnership Group for Science and Engineering. Attended the symposium “Leaders of Tomorrow” in Canadian Parliament, Ottawa (Nov., 2004).
- Best Research Assistant (1993, OSU).
- National Merit Scholarship (B.Sc).
- National Merit Scholarship (High School).

REFEREE:

- National Science Foundation Grant proposals.

- Department of Energy Grant Proposals.
- Physics Review D and Physics Review Letters.
- Physics Letters B.
- JHEP
- JCAP

RESEARCH PUBLICATIONS CITATION STATISTICS:

190 papers in major journals with ~ 8300 citations for citable papers
(<http://inspirehep.net/author/profile/Bhaskar.Dutta.1>)

GRANTS :

- Department of Energy (2007-2010), (2010-2013), (2013-2016), (2016-2017), (2017-2020), (2020-2023).
- Collgege of Science, Strategic Transformative Research Program Funds 2018-2019.
- Fermilab neutrino program funding, 2019.
- NSF funding to organize workshop (2015,2013)
- DOE funding to organize workshop (2019, 2015,2012)
- Conacyt funding to organize PPC in Mexico (2014)
- IRTAG travel grant (TAMU).
- NSF-Research Experiences for Undergraduates (Co-PI)(2007-08).
- Department of Education: Graduate Assistance in the Areas of National Need (Co-PI)(2007-2010)
- Natural Sciences and Engineering Research Council of Canada (2003-2005).

INVITED CONTRIBUTIONS:

- Invited to contribute to Neutrino Non-Standard Interactions: A Status Report, 2019
- Invited to contribute to the Proceedings of The Magnificent $CE\nu NS$ Workshop 2018
- Invited to write a review article on neutrino physics and dark matter detector in Annual Review of Nuclear and Particle Science, 2019
- Invited to contribute a review on SUSY at the LHC to LHCP proceeding in PoS LHCP2018 (2018) 160.
- Invited to contributions to SILAFEA 2016 proceeding (XI Latin American Symposium of High Energy Physics)
- Invited to edit the conference proceeding: “Workshop on Dark Matter, Unification and Neutrino Physics (CETUP* 2015)

- Invited to contribute to the Intensity Frontier Documents on proton decay, lepton flavor violation (2012);
- Invited contributions for Snowmass white paper (2013) in dark matter, collider.
- Invited to edit the conference proceeding: Workshop on Dark Matter, Neutrino Physics and Astrophysics CETUP* 2013: 7th International Conference on Interconnection between Particle Physics and Cosmology (PPC 2013)
- Invited to edit the conference proceeding: “Workshop on Dark Matter, Unification and Neutrino Physics (CETUP* 2012)”.,
- Invited to contribute to the Intensity Frontier Document on proton decay, lepton flavor violation,
- Invited to contribute to the summary document Pre-SUSY 2009: Beyond the Standard Model Physics and LHC Signatures (BSM-LHC), Boston, Massachusetts,
- Invited to contribute “SUSY at the LHC” to the Julius Wess memorial volume, to be published by EPJC in 2008.
- Invited to contribute to the Supersymmetry Parameter Analysis project (Chairpersons: J. Kalinowski, H.-U. Martyn).
- Invited to contribute in recent APS Neutrino Study (Study Organizers: Boris Kayser and Stuart Freedman).
- Invited to contribute to white paper for Linear Collider.
- Invited to contribute to report of the SUGRA working group for RUN II of the Tevatron.
- Invited to contribute to report on low scale and gauge mediated supersymmetry breaking at the Fermilab Tevatron RUN II.
- Invited to contribute to report of the beyond the MSSM subgroup for the Tevatron RUN II SUSY / Higgs workshop.

ADVISING:

Post Doctoral:

1. Dr. Mohammad Abdullah (2017-)
2. Prof. Peisi Huang (2016-2017, current position: Assistant Professor, University of Nebraska)
3. Prof. Yu Gao (2013-2016, current position: Assistant Professor, IHEP, Beijing, China)
4. Prof. Kuver Sinha (2010-2013, current position : Assistant Professor, University of Oklahoma),
5. Prof. Yukihiro Mimura (2005-2009, current position: Research Prof., Dept. of Phys., National Taiwan University);
6. Prof. James Dent (2005-2006, current position: Assistant Professor, Dept. of Phys., Sam Houston State University),

7. Prof. Jason Kumar (2005-2007, current position: Associate Professor, Dept. of Phys., University of Hawaii)

Doctoral: Supervisor (chair of the Ph.D. committee):

1. Sumit Ghosh (current)
2. Adrian Thomson (current)
3. Wei-Chi Huang(current)
4. Ankur Verma
5. Shu Liao (graduated in 2020 spring), joined big data at Amazon
6. Dr. Steven Clark (graduated in 2019 summer, Position from Fall 2019: Post-doctoral fellow: Brown University)
7. Dr. Esteban Jimenez (graduated 2018, current position: Assistant Professor, Department of Physics, University of Costa Rica)
8. Dr. Sean Wu (graduated 2017, current position: Visiting Assistant Professor, Department of Physics, University of Cincinnati)
9. Dr. Tathagata Ghosh (graduated 2016, current position: Post-doctoral fellow, Dept. of physics, University of Hawaii)
10. Dr. Kechen Wang (graduated 2014, current position: Post-doctoral fellow, Theory group, DESY, Germany)
11. Dr. Sean Downes (graduated 2013, current position: Post-doctoral fellow, Dept. of physics, University of Taiwan),
12. Dr. Sheldon Campbell (graduated, 2012, current position: Post-doctoral fellow, Dept. of physics, University of California, Irvine),
13. Dr. Abram Krislock (graduated, 2011, current position: Post-doctoral fellow, Dept. of physics, University of Oslo, Norway)

Undergraduate:

1. P. Simeon (Goldwater scholar, graduated, 2009, current position: graduate student, Dept. of physics, Stanford University),
2. Phuongmai Truong (graduated, 2011, current position: graduate student, Dept. of physics, University of California, Berkeley),
3. Daniel Freeman (Best Thesis award, graduated, 2012, current position: graduate student, Dept. of physics, University of California, Berkeley),
4. Chris Akers (graduated, 2013, current position: graduate student, Dept. of physics, University of California, Berkeley)

SPEAKER AT MAJOR CONFERENCES, UNIVERSITIES AND SUMMER SCHOOL

1. Colloquium at Colorado State University (2020).
2. Seminar at KIAS, Korea (2020).
3. Talk at Snowmass neutrino workshop (2020).
4. Seminar at TAMU-LANL(2020).
5. Talk at Rice University, (CAPP, 2019).
6. Talk at 2nd Target Station FPSTS, Oak Ridge, TN (July, 2019).
7. Talk at Opportunities at future collider, Madrid, Spain, (June, 2019).
8. Talk at ν – electron scattering workshop-University of Massachusetts, (April 2019).
9. Talk at NTN workshop, Washington Univ., St. Louis, (May, 2019).
10. Seminar at UC Irvine, California, (February, 2019).
11. Seminar at IACS, Kolkata, India (December, 2018).
12. Talk at CE ν NS, University of Chicago, (November, 2018)
13. Talk at SUSY 2018, Barcelona, Spain (July, 2018)
14. Talk at Summer Workshop in Particle Physics, Santa Fe, NM (July, 2018)
15. Talk at LHCP, Bologna, Italy (June, 2018)
16. Seminar at Syracuse University (March, 2018)
17. Seminar at IACS, Kolkata, India (December, 2017)
18. Colloquium at Texas Tech University (October, 2017)
19. Colloquium and seminar at OSU, Stillwater (September, 2017)
20. Talk at WIN 2017, Irvine, CA, 2017
21. Talk at International Summer School, Bogota, Colombia, May, 2017
22. Talk at South American Dark Matter Workshop, ICTP-SAIFR, São Paulo, Brazil, May, 2017
23. Talk at Miami, 2016 (December, 2016)
24. Talk at the Latin American Symposium on High Energy Physics (SILAFEA) —Guatemala (November, 2016)
25. Talk at LHC Run 2—Santa Fe (July, 2016)
26. Talk at Sixth Workshop on Theory, Phenomenology and Experiments in Flavour Physics - FPCapri2016 (June, 2016)
27. Colloquium at University of Houston-Clear Lake (February, 2016)
28. Colloquium at University of Delaware (October, 2015)

29. Seminar at University of Delaware (October, 2015)
30. Talk at NEW TECHNOLOGIES for DISCOVERY Organized by the Coordinating Panel for Advanced Detectors of the DPF of the APS (October, 2015)
31. Talk at DM workshop, Madrid (May, 2015)
32. Talk at Cambridge-Mitchell workshop (April, 2015)
33. Talk at University of New Mexico (March 2015)
34. Talk at University of Texas (February, 2015)
35. Talk at University of Louisiana (February, 2015)
36. Talk at IACS, Kolkata (December, 2014)
37. Talk at XVI Mexican School of Particles and Fields, Mexico (December, 2014)
38. Talk at Hidden Dark Conference 2014, Michigan (November, 2014)
39. Talk at Multidark Conference 2014, Daejeon, Korea (October, 2014)
40. Talk at 100 TeV Collider Workshop 2014, Fermilab (August, 2014)
41. Talk at String Phenomenology 2014, ICTP, Trieste (July, 2014)
42. Talk at LHC After the Higgs, Santa Fe, New Mexico (July, 2014)
43. Talk at PPC, Mexico (June, 2014)
44. Talk at Summer School, Los Andes University, Bogota, Colombia (May, 2014)
45. Talk at Miami 2013, Florida(December, 2013)
46. Talk at CosPa 2013(November, 2013)
47. DM Talk at Aspen summer workshop 2013(September, 2013)
48. Talk at Aspen summer workshop 2013(september, 2013)
49. Talk at CETUP 2013 (July, 2013)
50. Talk at LHCP 2013(May, 2013)
51. Talk at BNL-Snowmass 2013(April, 2013)
52. Talk at Aspen Winter workshop 2013(January, 2013)
53. Talk at Miami 2012, Florida(December, 2012)
54. Talk at PPC, Seoul, Korea (November, 2012)
55. Talk at CETUP* workshop, South Dakota (July, 2012)
56. Talk at TCC Workshop, Austin (May, 2012)
57. Talk at Sam Houston State University (April, 2012)

58. Talk at University of New Mexico (March, 2012)
59. Talk at Bethe Forum, Germany (November, 2011)
60. Talk at Mini-Workshop on Dark Matter (May, 2011)
61. Colloquium at Baylor University (September, 2011)
62. Talk at PASCOS, July 2009
63. Talk at TAUP, July 2009
64. Talk at SUSY, June 2009
65. Talk at SUSY-BSM, June 2009
66. Talk at PPC 2009, May 2009
67. Talk at DARK 2009, January 2009
68. Talk at Coral Gables, Florida, December, 2008.
69. Seminar at University of Torino, Italy, 2008.
70. Talk at Cosmo 2008, Madison, Wisconsin.
71. Talk at IDM 2008, Stockholm, Sweden.
72. Seminar speaker at University of Durham, UK, June, 2008.
73. ITalk at ICHEP (international Conference on High Energy Physics, 2 talks), 2008.
74. Talk at CDF, Fermilab, April, 2008.
75. Colloquium at Texas Tech University (March, 2008).
76. Seminar at University of New Mexico (March, 2008).
77. Talk at DM 2008, February, UCLA.
78. Talk at Les Rencontres de Physique de La Vallée, LaThuile, Italy 2008, February.
79. Two seminars at the university of Maryland (November, 2007).
80. Talk at B-L violation workshop, LBNL (2007).
81. Talk at SUSY, Karlsruhe, Germany (2007).
82. Talk at Ultra Cold and Cold Neutrons, St Petersburg, Russia(2007).
83. Talk at Dark Side of the Universe, Minnesota (2007).
84. Talk at the Midwest Theory Conference, Kansas (2007).
85. Talk at the DPF'06, Hawaii, US Oct(2006) two talks.
86. Talk at the ICHEP'06, Moscow, Russia July(2006).

87. Talk at the CDMSCE'06, Irvine, June(2006).
88. Talk at the PHENO'06, Wisconsin, May(2006).
89. Seminar and Colloquium Speaker at OSU, April(2006).
90. Talk at the DM'06, (UCLA Symposium), February(2006).
91. Talk at the Coral Gables Conference, Florida, December(2005).
92. Talk at the SUSY'05, Durham, UK, July(2005).
93. Seminar Speaker at UC Riverside, CA, April(2005).
94. Colloquium Speaker at TAMU, Tx, Jan.(2005).
95. Talk at the ILC Workshop, Stanford University, SLAC, Stanford, CA, January(2005).
96. Talk at the DARK, 2004, October(2004).
97. Talk at the PASCOS, 2004 (Boston), August(2004).
98. Talk at the LC Workshop, 2004 (Victoria), July(2004).
99. Talk at the CAP Congress, 2004 (Winnipeg), June(2004).
100. Talk at the Dark Matter 2004 (UCLA Symposium), February(2004).
101. Talk at the Coral Gables Conference, Florida, December(2003).
102. Talk at the 2nd String-phenomenology Conference, Durham, (July'2003).
103. Talk at the LC Workshop, Cornell University, Ithaca, NY, July(2003).
104. Talk at the LC Workshop, Arlington, January(2003).
105. Talk at the Coral Gables Conference, Florida, December(2002).
106. Talk at the Cosmo 02, Chicago, (September'2002).
107. Talk at the 1st String-phenomenology Conference, Oxford, (July'2002).
108. Talk at the University of Regina, Regina, CA (Spring'2002).
109. Talk at the University of Regina, Regina, CA (Spring'2002).
110. Talk at Dark Matter 2002, UCLA, CA, February, 2002.
111. Seminar speaker at the University of Alabama, Tuscaloosa, AL (Spring'2002).
112. Colloquium speaker at the Texas A & M University, College Station, TX (Spring'2002).
113. Talk at the LC Workshop at the University of Chicago, January, 2002.
114. Talk at the Coral Gables at Fort Lauderdale, FL, December, 2001.
115. Talk at EDM 2001 at BNL, NY, May, 2001.

116. Colloquium speaker at the Texas A & M University, College Station, TX (Spring'2001).
117. Seminar speaker at the University of Indiana, Bloomington, IN (Spring'2001).
118. Talk at the Orbis Scientae 2000 at Fourt Lauderdale, Fl, December, 2000.
119. Talk at the DPF 2000 at Columbus, Oh, August, 2000.
120. Talk at the SUSY 99, Fermilab, IL, June, 1999.
121. Talk at the Final RUN II Workshop, Fermilab, IL, November, 1998.
122. Seminar speaker at the Southern Methodist University, Dallas, TX (Fall'98).
123. Seminar speaker at the University of Kansas, Lawrence, Kansas (Fall'98).
124. Seminar speaker at the University of Colorado, Boulder, Colorado (Fall'98).
125. Talk at the Pascos 98, Northeastern University, Boston, MA, April 1998.
126. Talk at the RUN II Workshop, Fermilab, IL, May, 1998.
127. Talk at the International Symposium in High Energy Phenomenology, Madison, Wisconsin, April 1997.
128. Talk at the DPF meeting at Univ. of Minnesota, 1996.
129. Talk at SUSY 96 at Univ. of Maryland, 1996.
130. Talk at the BSMIV at Lake Tahoe, CA, 1994.
131. Talk at the DPF meeting at Albuquerque, New Mexico, 1994.
132. Talk at the International Symposium: *Physics Does Not Stop, Recent Developement in High Energy Phenomenology* , Madison, Wisconsin, April 1994.

VISITING SCIENTIST :

1. University of Bonn, Fall, 2011.
2. Brookhaven National Laboratory New York, Summer, 1998.
3. Fermi National Accelerator Laboratory, Batavia, Illinois, Summer, 1998.
4. Stanford Linear Accelerator Lab, Summer, 1997.
5. Stanford Linear Accelerator Lab, Summer, 1995.
6. University of Illinois at Urbana-Champaign, Fall, 1994.
7. Brookhaven National Laboratory New York, Summer, 1994.
8. Fermi National Accelerator Laboratory, Batavia, Illinois, Summer, 1994.
9. Fermi National Accelerator Laboratory, Batavia, Illinois, Summer, 1992.

CONFERENCE ORGANIZED:

- Co-chair of the Dark Universe Workshop at ICTP-SAIFR, Sao Paulo- Brazil, October, 2019
- Co-chair of SUSY 2019 at TAMU-Corpus Christi, TX, May, 2019
- Local organizing Committee member of Neutrino workshop at the University of Texas, Arlington April, 2019
- Organized and co-chaired Collider, Neutrino and Dark Matter Workshops 2013, 2014, 2015, 2016, 2017, 2018 TAMU;
- Coherent Neutrino Scattering Experiment Workshop, Texas A&M University”, November 2015
- Co-director of the ”XVI Mexican School of Particles and Fields/BCVSPIN”, organized at Collima, Mexico, 8-13 December;
- Organized Interconnection between Particle physics and Cosmology(PPC) 2014, Leon, Mexico), PPC 2013, 2015(South Dakota), 2008(University of New Mexico)
- Organized and chaired two week dark matter program at CETUP 2012, South Dakota;
- Organized and Co-Chaired Inflation 2011, TAMU;
- Organized the First Interconnection between Particle physics and Cosmology(PPC) 2007, College Station, TX)

TEACHING :

- Electromagnetic Theory-II [Graduate];
- Quantum Field Theory I, II [Graduate];
- Introduction to Particle Physics [Graduate];
- Weak Scale Supersymmetry [Graduate];
- Methods of Theoretical Physics [Graduate];
- Mathematical Methods [Graduate]
- Electricity and Magnetism [Undergraduate];
- Mathematical Physics [Undergraduate];
- Quantum Mechanics [Graduate];
- Cosmology and General Relativity [Graduate];
- Classical Mechanics [Graduate].

OUTREACH:

- Co-organized Mitchell Institute Physics Enhancement Program-MIPEP (2012-2020)
- Presented talk at the Saturday Morning Physics for High School students.

- Participated in the Physics Festival with a demonstration every spring, 2006-2016.

SERVICE:

- Serving as a director of Mitchell Institute for Fundamental Physics and Astronomy.
- Serving as a member of the international advisory committee of the international workshop on interconnection between particle physics and cosmology (PPC).
- Serving as a member of the advisory committee of BCVSPIN.
- Serving as a member of the Graduate Curriculum Committee (chaired the committee).
- Served as a member and chair of the Promotion and Tenure Committee.
- Served as a member of the Undergraduate Curriculum Committee.
- Serving as a member of the Graduate Admission Committee
- Served as a Faculty Search Committee member in 5 faculty searches
- Served as a member of many (~ 25) Ph.D. committees

RESEARCH PUBLICATIONS IN JOURNALS

1. **Opportunities for probing $U(1)_{T3R}$ with light mediators** B. Dutta, S. Ghosh, J. Kumar, e-Print: 2007.16191 [hep-ph] (submitted to Phys. Rev. D)
2. **“Non-Local” Effects from Boosted Dark Matter in Indirect Detection** K. Agashe, S. Clark, B. Dutta, Y. Tsai e-Print: 2007.04971 [astro-ph.CO] (submitted to PRD)
3. **Inverse Primakoff Scattering as a Probe of Solar Axions at Liquid Xenon Direct Detection Experiments** J. Dent, B. Dutta, J. Newstead, A. Thompson e-Print: 2006.15118 [hep-ph](to appear in Phys. Rev. Lett.)
4. **Explaining the XENON1T excess with Luminous Dark Matter** N. Bell, J. Dent, B. Dutta, S. Ghosh, J. Kumar, e-Print: 2006.12461 [hep-ph](to appear in Phys. Rev. Lett)
5. **Searching for Dark Matter Signals in Timing Spectra at Neutrino Experiments** B. Dutta, D. Kim, S. Liao, J-C Park, S. Shin, e-Print: 2006.09386 [hep-ph](to be submitted to JHEP)
6. **Explaining $(g-2)_{\mu,e}$, KOTO anomaly and MinibooNE excess in an extended Higgs model with sterile neutrinos**, B. Dutta, S. Ghosh, T. Li e-Print: 2006.01319 [hep-ph].
7. **Coherent Elastic Neutrino-Nucleus Scattering with directional detectors** M. Abdullah, D. Aristizabal Sierra, B. Dutta, L. Strigari, e-Print: 2003.11510 [hep-ph] (submitted to Physical Review D)
8. **A global analysis strategy to resolve neutrino NSI degeneracies with scattering and oscillation data** B. Dutta, R. Lang S. Liao, S. Sinha, L. Strigari, A. Thompson, e-Print: arXiv:2002.03066 (submitted to JHEP).
9. **Contributions to ΔN_{eff} From the Dark Photon of $U(1)_{T3R}$** B. Dutta, S. Ghosh, J. Kumar, e-Print: arXiv:2002.01137 (submitted to Physical Review D).

10. **New Directions for Axion Searches via Scattering at Reactor Neutrino Experiments** J. Dent, B. Dutta, D. Kim, S. Liao, R. Mahapatra, K. Sinha, A. Thompson, Phys.Rev.Lett. **124** 21, 211804(2020).
11. **Coherent elastic neutrino-nucleus scattering in multi-ton scale dark matter experiments: Classification of vector and scalar interactions new physics signals** D. Aristizabal Sierra, B. Dutta, S. Liao, L. Strigari, Published in JHEP **1912** (2019) 124
12. **Leptonic Scalars at the LHC** A. de Gouvêa, P.S. Bhupal Dev, B. Dutta, T. Ghosh, T. Han, Y. Zhang, e-Print: arXiv:1910.01132 (submitted to JHEP)
13. **$(g - 2)_{\mu,e}$ and the ANITA anomalous events in a three-loop neutrino mass model** M. Abdullah, B. Dutta, S. Ghosh, T. Li, Phys. Rev. D **100** (2019) no.11, 115006
14. **Bounds on Cosmic Ray-Boosted Dark Matter in Simplified Models and its Corresponding Neutrino-Floor** J. Dent, B. Dutta, J. Newstead, I. Shoemaker, e-Print: arXiv:1907.03782 (accepted for publication in Physical Review D).
15. **Dark matter signals from timing spectra at neutrino experiments** B. Dutta, D. Kim, S. Liao, Jong-Chul Park, S. Shin, L. Strigari, Phys.Rev.Lett. **124**12, 121802 (2020).
16. **A sub-GeV dark matter model**, B. Dutta, S. Ghosh and J. Kumar, Phys. Rev. D **100**, 075028 (2019)
17. **Searching for Beyond the Standard Model Physics with COHERENT Energy and Timing Data**, B. Dutta, S. Liao, S. Sinha and L. E. Strigari, Phys. Rev. Lett. **123**, no. 6, 061801 (2019)
18. **Indirect detection of the partial p wave via the s wave in the annihilation cross section of dark matter** S. J. Clark, J. B. Dent, Bhaskar Dutta and L. E. Strigari, Phys. Rev. D **99**, no. 8, 083003 (2019)
19. **Electron $g - 2$ with flavor violation in MSSM**, Bhaskar Dutta and Y. Mimura, Phys. Lett. B **790**, 563 (2019)
20. **A theory of $R(D^*, D)$ anomaly with right-handed currents**, K.S. Babu, Bhaskar Dutta, Rabindra Mohapatra, JHEP 1901 (2019) 168
21. **Neutrino scattering and B anomalies from hidden sector portals**, Alakabha Datta, Bhaskar Dutta, Shu Liao, Danny Marfatia, Louis E. Strigari, JHEP 1901 (2019) 091
22. **Probing a simplified, W' model of $R(D, D^*)$ anomalies using b-tags, τ leptons and missing energy**, Mohammad Abdullah, Julian Calle, Bhaskar Dutta, Andrés Flórez, Diego Restrepo, Phys.Rev. D98 (2018) no.5, 055016
23. **Three-loop neutrino masses via new massive gauge bosons from E6 GUT**, Bhaskar Dutta, Sumit Ghosh, Ilia Gogoladze, Tianjun Li, Phys.Rev. D98 (2018) no.5, 055028
24. **A cosmological pathway to testable leptogenesis**, Bhaskar Dutta, Chee Sheng Fong, Esteban Jimenez, Enrico Nardi, JCAP 1810 (2018) no.10, 025
25. **21cm Limits on Decaying Dark Matter and Primordial Black Holes**, S. Clark, Bhaskar Dutta, Y. Gao, Y. Ma, L. Strigari, Phys. Rev. D98 (2018) no.4, 043006.

26. **Coherent elastic neutrino nucleus scattering as a probe of a Z' through kinetic and mass mixing effects** , Mohammad Abdullah, James B. Dent, Bhaskar Dutta, Gordon L. Kane, Shu Liao, Louis E. Strigari, Phys. RevD. 98 (2018) no.1, 015005.
27. **Prospects for discovery and spin discrimination of dark matter in Higgs portal DM models and their extensions at 100 TeV pp collider**, Bhaskar Dutta, Teruki Kamon, P. Ko, Jinmian Li, Eur.Phys.J. C78 (2018) no.7, 595
28. **A Simple Testable Model of Baryon Number Violation: Baryogenesis, Dark Matter, Neutron-Antineutron Oscillation and Collider Signals**, Rozbeh u Allahverdi, P. S. B. Dev and Bhaskar Dutta, Phys. Lett. B 02, 019 (2018)
29. **Accelerator and reactor complementarity in coherent neutrino scattering**, James Dent, Bhaskar Dutta, Shu Liao, Jayden Newstead, Louis Strigari, Joel Walker, Phys.Rev. D97 (2018) no.3, 035009.
30. **Bottom-quark Fusion Processes at the LHC for Probing Z' Models and B-meson Decay Anomalies**, Mykhailo Dalchenko, Bhaskar Dutta, Ricardo Eusebi, Peisi Huang, Teruki Kamon, Denis Rathjens, Phys. Rev. D97 (2018) no.7, 075035.
31. **Vector Boson Fusion in the Inert Doublet Model**, Bhaskar Dutta, Guillermo Palacio, Jose D. Ruiz-Alvarez, Diego Restrepo, Phys.Rev. D97 (2018) no.5, 055045.
32. **Dark Matter Annihilation into Four-Body Final States and Implications for the AMS Antiproton Excess**, Steven J. Clark, Bhaskar Dutta, Louis E. Strigari, Phys.Rev. D97 (2018) no.2, 023003.
33. **D-brane Disformal Coupling and Thermal Dark Matter**, Bhaskar Dutta, Esteban Jimenez, Ivonne Zavala, Phys.Rev. D96 (2017) no.10, 103506
34. **Probing Squeezed Bino-Slepton Spectra with the Large Hadron Collider**, Bhaskar Dutta, Kebur Fantahun, Ashen Fernando, Tathagata Ghosh, Jason Kumar, Pearl Sandick, Patrick Stengel, Joel W. Walker, Phys.Rev. D96 (2017) no.7, 075037
35. **Non-standard interactions of solar neutrinos in dark matter experiments**, Bhaskar Dutta, Shu Liao, Louis Strigari and Joel Walker, Phys.Lett. B773 (2017) 242-246..
36. **Dark Matter Relics and the Expansion Rate in Scalar-Tensor Theories**, Bhaskar Dutta, Esteban Jimenez and Ivonne Zavala, JCAP 1706 (2017) no.06, 032.
37. **Probing light mediators at ultra-low threshold energies with coherent elastic neutrino-nucleus scattering**James Dent, Bhaskar Dutta, Shu Liao, Jay Newstead, Louis Strigari and Joel Walker, Phys.Rev. D96 (2017) no.9, 095007.
38. **Planck Constraint on Relic Primordial Black Holes**, Steven Clark, Bhaskar . Dutta, Yu Gao, Louis Strigari and Scott Watson, Phys. Rev. D **95**, no. 8, 083006 (2017).
39. **Dark matter, light mediators, and the neutrino floor**, James Dent, Bhaskar Dutta, Jayden Newstead and Louis Strigari, Phys. Rev. D, 95, no. 5, 051701 (2017).
40. **Light Higgsino Dark Matter from Non-thermal Cosmology**, Luis Aparicio, Michele Cicoli, Bhaskar Dutta, Franceso Muia and Farnenado Quevedo, JHEP 1611, 038 (2016).

41. **Exploring the Jet Multiplicity in the 750 GeV Diphoton Excess**, Mykhailo Dalchenko, Bhaskar Dutta, Yu Gao, Tathagata Ghosh, Teruki Kamon, Phys.Lett. B761 (2016) 77
42. **An SU(6) GUT Origin of the TeV-Scale Vector-like Particles Associated with the 750 GeV Diphoton Resonance**, Bhaskar Dutta, Yu Gao, Tathagata Ghosh, Ilia Gogoladze, Tianjun Li, Joel W. Walker, Phys.Rev. D94 (2016) 0360063.
43. **Interpretation of the diphoton excess at CMS and ATLAS**, Bhaskar Dutta, Yu Gao, Tathagata Ghosh, Ilia Gogoladze, Tianjun Li, Phys.Rev. D93 (2016), 055032
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45. **Sensitivity to oscillation with a sterile fourth generation neutrino from ultra-low threshold neutrino-nucleus coherent scattering** Bhaskar Dutta, Yu Gao, Rupak Mahapatra, Nader Mirabolfathi, Louis Strigari and Joel Walker, Phys. Rev. D **94**, no. 9, 093002 (2016)
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