
PUBLICATION LIST – ALAN J BARR

JOURNAL PUBLICATIONS

Papers to which I have made a significant and direct contribution

ON PHYSICS STUDIES AT ATLAS AND THE LHC

1. **A.J.Barr** and J. Liu, ‘Complementarity of recent 13 TeV supersymmetry searches and dark matter interplay in the $p\text{MSSM}$ ’, arXiv: 1608.05379
Showing how different LHC searches have impacted the space of allowed Dark Matter models
2. ATLAS Collaboration (**A.J.Barr** chair of Ed Board) ‘Dark Matter interpretations of ATLAS searches for the electroweak production of supersymmetric particles in $\sqrt{s} = 8$ TeV proton-proton collisions’, arXiv:1608.00872, submitted to JHEP
Showing the LHC experiments’ high sensitivity to supersymmetric Dark Matter – even when strongly interacting particles are heavy
3. ATLAS Collaboration (**A.J.Barr** editor of MET trigger section) ‘Performance of the ATLAS Trigger System in 2015’, in preparation
Describing the selection algorithms used for recording all high-energy ATLAS data
4. **A.J.Barr** and J. Liu, ‘First interpretation of 13 TeV supersymmetry searches in the $p\text{MSSM}$ ’, arXiv:1605.09502
The first overview of the early 13 TeV LHC SUSY searches in the more general MSSM
5. ATLAS Collaboration, (**A.J.Barr** editor) ‘Search for new phenomena in final states with large jet multiplicities and missing transverse momentum with ATLAS using $\sqrt{s}=13$ TeV proton--proton collisions’, arXiv:1602.06194, Phys.Lett. **B757** (2016) 334-355
The first LHC Supersymmetry search paper from either ATLAS or CMS at LHC Run-2.
6. ATLAS Collaboration, (**A.J.Barr** editor) ‘Measurement of four-jet differential cross sections in $\sqrt{s} = 8$ TeV proton-proton collisions using the ATLAS detector’, arXiv:1509.07335, JHEP12(2015)105.
A detailed study of the kinematics of multi-jet events, and of the Monte Carlo event generators that model them
7. ATLAS Collaboration, ‘ATLAS Run 1 searches for direct pair production of third-generation squarks at the Large Hadron Collider’, arXiv:1506.08616, Eur. Phys. J. C75 (2015) 510
8. ATLAS Collaboration, ‘Summary of the searches for squarks and gluinos using $\sqrt{s} = 8$ TeV pp collisions with the ATLAS experiment at the LHC’, arXiv1507.05525, JHEP 2015(10) 01
9. ATLAS Collaboration, (**A.J.Barr** editor) ‘Summary of the ATLAS experiment’s sensitivity to supersymmetry after LHC Run 1 - interpreted in the phenomenological MSSM’, JHEP10(2015)134, arXiv:1508.06608, ATLAS-SUSY-2014-08. **The most comprehensive analysis of Run-1 SUSY searches, considering 22 different search papers and more than 300,000 $p\text{MSSM}$ models. Selected by the ATLAS Collaboration as a “Physics highlight”ⁱ. Featured on Résonances blogⁱⁱ, and in the CERN courier (Nov 2015).**

10. **A.J.Barr** and J. Scoville, “A boost for the EW SUSY hunt: monojet-like search for compressed sleptons at LHC14 with 100 fb^{-1} ”, arXiv:1501.02511, JHEP 04(2015) 147. **Demonstrating that sleptons can be discovered at the LHC even in the difficult case of compressed mass-spectra**
11. ATLAS Collaboration, (**A.J.Barr** editor) ‘Search for Scalar-Charm Pair Production in pp Collisions at $\sqrt{s}=8 \text{ TeV}$ with the ATLAS Detector’, arXiv:1501.01325. Phys. Rev Lett. **114** 161801 (2015) **The first dedicated search for scalar charm production at a Hadron Collider. Selected by the ATLAS Collaboration as a “Physics highlight”ⁱⁱⁱ**
12. **A.J. Barr**, et. al., ‘Higgs Self-Coupling Measurements at a 100 TeV Hadron Collider’, arXiv:1412.7154, JHEP 1502(2015)016. **Exploring one of the main physics motivations for a future high-energy (~100 TeV) hadron collider**
13. **A.J. Barr**, M.J. Dolan, C. Englert, M. Spannowsky, ‘Di-Higgs final states *augMT2ed* – selecting hh events at the high-luminosity LHC’, arXiv:1309.6318, Phys. Lett. B728 p306 (2014). **Demonstrating that the high-luminosity-LHC can measure the Higgs field’s self-coupling. Topcite 50+**
14. ATLAS Collaboration, ‘Search for direct third-generation squark pair production in final states with missing transverse momentum and two b -jets in $\sqrt{s}=8 \text{ TeV}$ pp collisions with the ATLAS detector’, JHEP 1310 (2013) 189, arXiv:1308.2631, **World-leading sensitivity to sbottom squarks**
15. ATLAS Collaboration, (**A.J.Barr** editor) ‘Search for new phenomena in final states with large jet multiplicities and missing transverse momentum at $\sqrt{s}=8 \text{ TeV}$ proton-proton collisions using the ATLAS experiment’, arXiv:1308.1841, JHEP10(2013)130. **The first ATLAS Supersymmetry search analysis of the complete 8 TeV data set, sensitive to squarks and gluinos**
16. **A.J. Barr**, C.G. Lester ‘A search for direct heffalon production using the ATLAS and CMS experiments at the Large Hadron Collider’, arXiv:1303.7367 **Special 1st April paper. Used in special exhibition “Collider” at the Science Museum, London**
17. ATLAS Collaboration, ‘A Particle Consistent with the Higgs Boson Observed with the ATLAS Detector at the Large Hadron Collider’, Science 338 (2012) 1576-1582, doi:10.1126/science.1232005 **Higgs boson discovery paper for a broader audience.**
18. ATLAS Collaboration (**A.J.Barr** chair of ed. board) “Search for R -parity-violating supersymmetry in events with four or more leptons in $\sqrt{s} = 7 \text{ TeV}$ pp collisions with the ATLAS detector”, arXiv:1210.4457, JHEP 12 (2012) 124
19. ATLAS Collaboration, “Observation of a new particle in the search for the Standard Model Higgs Boson with the ATLAS detector at the LHC”, arXiv:1207.7214, Phys.Lett. B716 (2012) 1-29 **Higgs boson discovery paper. Topcite 1000+.**
20. “Search for squarks and gluinos with the ATLAS detector in final states with jets and missing transverse momentum using 4.7 fb^{-1} of $\sqrt{s}=7 \text{ TeV}$ proton-proton collision data”, Phys.Rev. D87 (2013) 012008, **Topcite 100+**

21. ATLAS Collaboration (**A.J.Barr** editor) “*Hunt for new phenomena using large jet multiplicities and missing transverse momentum with ATLAS in 4.7 fb^{-1} of $\sqrt{s} = 7 \text{ TeV}$ proton-proton collisions*” arXiv:1206.1760, JHEP **1207** (2012) 167
22. S. Kraml et al. “*Searches for New Physics: Les Houches Recommendations for the Presentation of LHC Results*”, arXiv:1203.2489, Eur.Phys.J. C72 (2012) 1976
23. **A.J.Barr**, B. Gripaios, C.G. Lester, “*Finding Higgs bosons heavier than $2m_W$ in dileptonic W boson decays*”, arXiv:1110.2452, Phys. Lett. **B 713** (2012) 495–499
24. ATLAS Collaboration (**A.J.Barr** editor) “*Search for new phenomena in final states with large jet multiplicities and missing transverse momentum using $\sqrt{s} = 7 \text{ TeV}$ pp collisions with the ATLAS detector*”, JHEP **1111** (2011) 099
Search with very large jet multiplicities (≥ 6 , ≥ 7 and even ≥ 8 jets) – highlighted in CERN courier article <http://cerncourier.com/cws/article/cern/49340>. Topcite 100+
25. ATLAS Collaboration, “*Search for squarks and gluinos using final states with jets and missing transverse momentum with the ATLAS detector in $\sqrt{s} = 7 \text{ TeV}$ proton-proton collisions*”, Phys.Lett. B710 (2012) 67-85 **Topcite 250+**.
26. **A.J. Barr**, B. Gripaios, C.G. Lester “*Re-weighing the evidence for a Higgs boson in dileptonic W -boson decays*”, PRL **108** (2012) 041803
27. **A. J. Barr**, S. T. French, J. A. Frost, C. G. Lester “*Speedy Higgs boson discovery in decays to tau lepton pairs*”, JHEP **1110** (2011) 080
A fast, effective projection. Factor of up to ~ 2 improved sensitivity or factor of better than 2000 reduction in computational expense compared to previous proposals
28. B. Allanach, **A.J. Barr**, A. Dafinca, C. Gwenlan, “*Discovery reach for generic supersymmetry at the LHC: M_{T2} versus missing transverse momentum selections for $p\text{MSSM}$ searches*”, JHEP 1107:104 (2011).
LHC crystal-ball gazing & Supersymmetry search strategies
29. **A.J. Barr**, P.Konar, K. Matchev, M.Park, C.G. Lester, T.J. Khoo, “*Guide to transverse projections and mass-constraining variables*”, Phys.Rev.D84(2011)095031
Long (47-page) introductory article on LHC kinematics containing a mixture of pedagogy and various proofs
30. ATLAS Collaboration (**A.J. Barr** editor) “*Search for squarks and gluinos using final states with jets and missing transverse momentum with the ATLAS detector in $\sqrt{s} = 7 \text{ TeV}$ proton-proton collisions*” accepted by Physics Letters **B701** (2011) 186–203
The most sensitive LHC Supersymmetry search paper of early 2011. The implications of this paper are discussed in Nature News (doi:10.1038/471013a), New Scientist, Oxford Science Blog, SlashDot and Symmetry magazine. Topcite 250+
31. ATLAS Collaboration “*Search for supersymmetry using final states with one lepton, jets, and missing transverse momentum with the ATLAS detector in $\sqrt{s} = 7 \text{ TeV}$ pp collisions*”, PRL **106**, 131802 (2011)
The first ATLAS Supersymmetry search paper. Selected for an editorial “Viewpoint in Physics” by PRL (doi:10.1103/Physics.4.27) Topcite 100+
32. ATLAS Collaboration “*Performance of the ATLAS Detector using First Collision Data*”, JHEP 1009:**056**,2010

33. **A.J. Barr**, C. Gwenlan, C.G. Lester, C.J.S. Young “A comment on 'Amplification of endpoint structure for new particle mass measurement at the LHC'”, Phys Rev **D.81** 118701 (2011)
34. **A.J. Barr**, C.G. Lester, “A review of the mass measurement techniques proposed for the Large Hadron Collider”, J. Phys. G: Nucl. Part. Phys. 37 (2010) 123001.
Review of 189 papers (72 pages). Topcite 50+. The classification and implications have been widely presented at e.g. CERN TH, and ICHEP-2010, Paris
35. **A.J. Barr**, B. Gripaios, C.G. Lester, “Transverse masses and kinematic constraints: from the boundary to the crease”, J. High Energy Phys. **0911**:096 (2009).
New kinematic approach to searches. Method adopted by ATLAS and CMS collaborations. Topcite 50+
36. **A.J. Barr**, C. Gwenlan, “The race for supersymmetry: using m_{T2} for discovery”, arXiv:0907.2713, Phys Rev **D.80**, 074007 (2009)
New kinematic approach to SUSY searches. Method adopted by ATLAS and CMS collaborations
37. **A.J. Barr**, B. Gripaios, C.G. Lester, “Measuring the Higgs boson mass in dileptonic W-boson decays at hadron colliders”, JHEP**07**(2009)072
New kinematic method proposed. Adopted by ATLAS for the LHC's most sensitive Higgs boson (WW) search. Topcite 50+
38. **A.J. Barr**, A. Pinder, M. Serna, “The Precision determination of invisible-particle masses at the CERN LHC: II”, arXiv:0811.2138, Phys.Rev.**D.79**,074005,2009 (2009)
Precision measurements in leptonic cascade decays to WIMPs
39. **A.J. Barr**, G.G. Ross, M. Serna, “The Precision Determination of invisible-particle masses at the LHC”, Phys.Rev.**D78**:056006,2008
Showing how to obtain GeV-scale WIMP mass measurements in leptonic 3-body decays
40. **A.J. Barr**, B. Gripaios, C.G. Lester, “Weighing wimps with kinks at colliders: invisible particle mass measurements from endpoints”, J. High Energy Phys **0802** (2008) 014.
Describes a general method of measuring the mass of invisible particles produced at the LHC. Topcite 100+. Position 15 on the list of most-cited hadron collider papers in the last two years, a list compiled in November 2010 by "sciencewatch.com"^{iv}
41. C.G. Lester, **A.J. Barr**, “MTGEN: mass scale measurements in pair-production at colliders”, J. High Energy Phys. **0712** (2007) 102.
General mass determination methods in complicated cascade decays. Topcite 50+
42. **A.J. Barr** “Measuring slepton spin at the LHC”, J. High Energy Phys. **0602** (2006) 042.
A second method of measuring SUSY particle spin at the LHC. Topcite 50+
43. **A.J. Barr** “Determining the spin of supersymmetric particles at the LHC using lepton charge asymmetry”, Phys. Lett. B **596** (2004) 205-212.
The first paper to propose a method for measuring the spin of Supersymmetric particles at the LHC. Topcite 100+
44. **A.J. Barr**, C.G. Lester, P. Stephens, “A variable for measuring masses at hadron colliders when missing energy is expected; M_{T2} : the truth behind the glamour”, J. Phys.G. **29** (2003) 2343.
Provides the mathematical background to the widely-used kinematical variable Topcite 250+

45. B.C. Allanach, **A.J. Barr**, C.G. Lester, M.A. Parker, P. Richardson, “*Discovering anomaly-mediated supersymmetry at the LHC*”, J. High Energy Phys. **0303** (2003) 045
Proposal for discriminating SUSY breaking mechanisms at the LHC. Topcite 50+
46. B.C. Allanach, **A.J. Barr**, M.A. Parker, P. Richardson and B.R. Webber “*Extracting the flavour structure of a baryon-number R-parity violating coupling at the LHC*”, J. High Energy Phys. **0109** (2001) 021
47. B.C. Allanach, **A.J. Barr**, L. Drage, C.G. Lester, D. Morgan, M.A. Parker, P. Richardson and B.R. Webber “*Measuring supersymmetric particle masses at the LHC in scenarios with baryon-number R-parity violating couplings*”, J. High Energy Phys. **0103** (2001) 048
Methods for gaining sensitivity to one of the most difficult signatures of new physics at the LHC

ON SILICON MICROSTRIP DETECTORS

48. The ATLAS collaboration, “*The ATLAS Inner Detector commissioning and calibration*”, **Eur.Phys.J.C70:787-821,2010.**
Cosmic ray and charge-injection in-situ commissioning. Topcite 100+
49. E. Abat et al. “*Combined performance tests before installation of the ATLAS Semiconductor and Transition Radiation Tracking Detectors*”, JINST 3:**P08003**,2008
50. A. Abdesselam et al. “*Engineering for the ATLAS SemiConductor Tracker (SCT) End-cap*”, JINST 3:**P05002**, 2008
51. A.Ahmad et al. “*Alignment of the Pixel and SCT Modules for the 2004 ATLAS Combined Test Beam*”, JINST 3:**P09004**,2008
52. A. Abdesselam et al. “*The detector control system of the ATLAS SemiConductor tracker during macro-assembly and integration*”, JINST 3:**P02007**,2008.
53. A. Abdesselam et al. (Editor **A.J. Barr**), “*The Data Acquisition and Calibration System for the ATLAS Semiconductor Tracker*” JINST 3:**P01003** ,2008
Description of the calibration, control and data acquisition system for the ATLAS detector subsystem: project led by AJB during the construction and commissioning phase
54. A. Abdesselam et al. “*The optical links of the ATLAS SemiConductor tracker*”, JINST 2:**P09003**,2007
55. A. Ahmad et al, “*The Silicon microstrip sensors of the ATLAS semiconductor tracker*”, Nuclear Instruments and Methods **A578**:98-118, 2007
56. A. Abdesselam et al, “*The Barrel Modules of the ATLAS SemiConductor Tracker*”, Nuclear Instruments and Methods **A568** (2006) 642-671 **Topcite 100+**
57. The ATLAS Semiconductor Tracker collaboration, “*Design and performance of the ABCD3TA ASIC for readout of silicon strip detectors in the ATLAS semiconductor tracker*” Nuclear Instruments and Methods A **552** (2005) pp292-328 **Topcite 100+**
58. The ATLAS Semiconductor Tracker collaboration, “*Beam tests of ATLAS SCT silicon strip detector modules*”, Nuclear Instruments and Methods A **538** (2005) pp384-407.

59. ATLAS and CMS Collaborations, “*High Transverse Momentum Physics at the Large Hadron Collider*”, Eur. Phys. J. direct **C4** (2002)
60. L. Feld et. al. “*R&D for the CMS Silicon Tracker*”, Nucl.Phys.Proc.Suppl.**78**:322-328, (1999)

ATLAS COLLABORATION PAPERS

61. ATLAS Collaboration, “*The ATLAS experiment at the CERN Large Hadron Collider*”. JINST 3:S08003,2008. **Topcite 1000+**
The ATLAS detector paper

A list of all ATLAS collaboration publications on which I am named as an author (a subset of which is included above) may be found at <http://inspirebeta.net/search?ln=en&p=atlas+barr>

OTHER PUBLICATIONS

REVIEW PAPER (PEER REVIEWED)

62. **A.J. Barr**, C.G. Lester, “*A review of the mass measurement techniques proposed for the Large Hadron Collider*”, arXiv:1004.2732, J. Phys. G: Nucl. Part. Phys. 37 (2010) 123001.
Topical review paper, subsequently widely presented e.g. at ICHEP (Paris), CERN-TH (Geneva), Blois (France)

EDUCATION PAPERS (PEER REVIEWED)

63. **A.J. Barr**, A. Haas, C.W. Kalderon, ““That looks weird – evaluating citizen scientists’ ability to detect unusual features in ATLAS images of LHC collisions”, in preparation
Evaluating our first project at the LHC to allow untrained citizen scientists to search for new particles and phenomena in images from the LHC data, involving more than 20,000 members of the public from more than 170 countries
64. **A.J. Barr**, C. Boddy, “*The ATLAS detector on a smartphone*”, 2012 Phys. Educ. 47 270
Smart-phone application: released through Android Marketplace. >50,000 downloads, and an average 4.8/5* user review rating, attracting comments like “Glorious beyond words”, and “Geekgasm-tacular-extravaganza”

BOOKS (NOT PEER REVIEWED)

65. The ATLAS Collaboration, (**A.J.Barr** editor of Supersymmetry chapter) “*Expected Performance of the ATLAS Experiment - Detector, Trigger and Physics*”, ISBN: 978-92-9083-321-5, CERN-OPEN-2008-020 (2008), arXiv:0901.0512 **Topcite 1000+ Describes in detail the analyses expected to be performed with the early ATLAS data.**

INTERNATIONAL CONFERENCE NOTES, TALKS AND PROCEEDINGS

66. ATLAS Collaboration, (**A.J.Barr** chair of the Editorial Board) “*Search for top-squark pair production in final states with two tau leptons, jets, and missing transverse momentum in $\sqrt{s} = 13$ TeV proton-proton collisions with the ATLAS detector*”, ATLAS-CONF-2016-048

67. ATLAS Collaboration, “*First validation plots in preparation for a search for new phenomena in final states with large jet multiplicities and missing transverse momentum at $\sqrt{s}=13$ TeV proton-proton collisions using the ATLAS experiment*”, ATL-PHYS-PUB-2015-030
68. ATLAS Collaboration (**A.J.Barr** editor) “*Search for new phenomena using large jet multiplicities and missing transverse momentum with ATLAS in 5.8 fb^{-1} of $\sqrt{s}=8$ TeV proton-proton collisions*” ATLAS-CONF-2012-103
69. ATLAS Collaboration (**A.J.Barr** editorial board) “*Performance of missing transverse momentum reconstruction in ATLAS with 2011 Proton-Proton Collisions at $\sqrt{s}=7\text{TeV}$* ”, ATLAS-CONF-2012- 101
70. ATLAS Collaboration (**A.J.Barr** editor) “*Hunt for new phenomena using large jet multiplicities and missing transverse momentum with ATLAS in $L=4.7 \text{ fb}^{-1}$ of $\sqrt{s} = 7$ TeV proton-proton collisions*” ATLAS-CONF-2012-037
71. ATLAS Collaboration (**A.J.Barr** editorial board) “*Performance of the Reconstruction and Identification of Hadronic Tau Decays with ATLAS*”, ATLAS-CONF-2011-152
72. **A.J. Barr**, “*Dark Matter Searches in ATLAS*”, Invited plenary, Dark Matter Underground and in the Heavens, CERN, July 2011
73. **A.J. Barr**, “*The LHC: The story so far*”, Invited plenary, PASCOS 2011, Cambridge, July 2011
74. ATLAS Collaboration, “*Search for squarks and gluinos using final states with jets and missing transverse momentum with the ATLAS detector in $\sqrt{s} = 7$ TeV proton-proton collisions*”, ATLAS-CONF-2011-086 (2011)
75. ATLAS Collaboration, “*Combined exclusion reach of 0 and 1 lepton + jets + E_T^{miss} searches*”, ATLAS-CONF-2011-064 (2011)
76. **A.J. Barr**, “*What’s happening at the LHC*”, Invited plenary, Darkness Visible, Cambridge, August 2010
77. C.G. Lester (**A.J. Barr** co-author) “*A Review of the Mass Measurement Techniques proposed for the Large Hadron Collider*”, ICHEP, Paris, July 2010
Invited presentation of review paper
78. ATLAS COLLABORATION, (**A.J. Barr** editor) “*Early Supersymmetry searches in channels with jets and missing transverse momentum with the ATLAS detector*”, July 2010, ATLAS-CONF-2010-065
First public LHC Supersymmetry search results (1/2)
79. ATLAS COLLABORATION, (**A.J. Barr** editor) “*Early Supersymmetry searches with jets, missing transverse momentum and one or more leptons with the ATLAS Detector*”, July 2010, ATLAS-CONF-2010-066
First public LHC Supersymmetry search results (2/2)
80. **A.J. Barr**, “*Finding WIMPs at the LHC*” workshop on Dark Matter, the Large Hadron Collider, and cosmology, Korean Institute of Advanced Study, August 2009
81. **A.J. Barr**, on behalf of the ATLAS and CMS collaborations, “*Dark Matter at the Large Hadron Collider*”, PASCOS 09, Hamburg, July 2009
82. **A.J. Barr**, “*Sparticle Mass Measurements at the LHC*”, BSM-LHC/SUSY 2009, Boston, June 2009.
83. **A.J. Barr**, “*Musings on Measuring Masses*”, Workshop on Measuring Masses and Spins of new particles, IPMU, Tokyo, March 2009.

84. **A.J. Barr**, “*The start-up of the LHC*”, UniverseNet workshop, Oxford, September 2008.
85. **A.J. Barr**, “*Discovering (and understanding) SUSY at the LHC*”, Workshop on TeV Scale Physics and Dark Matter, NORDITA, Stockholm, July 2008.
86. **A.J. Barr**, C. Gwenlan, C.G.Lester “*M_{TGen}: Mass scale measurements in pair production at colliders*”, in proceedings “*Physics at TeV Colliders*”, Les Houches, France, June 2007.
87. **A.J. Barr** on behalf of the ATLAS Collaboration, “*Supersymmetry and exotics physics with the ATLAS and CMS experiments*”, invited plenary talk, Particles Strings and Cosmology, PASCOS06, Ohio, September 2006. Invited plenary.
88. **A.J. Barr** on behalf of the ATLAS Collaboration, “*News from ATLAS physics studies*”, Large Hadron Collider – International Linear Collider workshop, CERN, December 2005
89. **A.J. Barr** on behalf of the ATLAS SCT Collaboration, “*Calibrating the ATLAS Semiconductor Tracker Front-End Electronics*”, proceedings of the IEEE Nuclear Science Symposium, Rome, ATL-COM-INDET-2006-001, 2004
90. **A.J. Barr** on behalf of the ATLAS and CMS Collaborations “*Mini-review: Higgs and SUSY at the LHC*”, to be published in the proceedings of the International Conference on High Energy Physics, (ICHEP) Beijing, China, World Scientific, 2004
91. **A.J. Barr** on behalf of the ATLAS Collaboration “*Finding Supersymmetry with the ATLAS experiment at the LHC*”, proceedings of “*SUSY 2003: Supersymmetry in the Desert*”, Tucson, Arizona, World Scientific, 2003
92. **A.J. Barr** “*Finding Anomaly-Mediated Supersymmetry at the LHC*”, proceedings of “*SUSY 2003: Supersymmetry in the Desert*”, Tucson, Arizona, World Scientific, 2003

ATLAS COLLABORATION NOTES

Not all publicly accessible

1. ATLAS Collaboration ‘*Pursuit of new phenomena in final states with high jet multiplicity, high jet masses and missing transverse momentum with ATLAS at $\sqrt{s} = 13$ TeV*’, ATLAS-CONF-2016-095.
2. ATLAS Collaboration, ‘*First validation plots in preparation for a search for new phenomena in final states with large jet multiplicities and missing transverse momentum at $\sqrt{s} = 13$ TeV proton–proton collisions using the ATLAS experiment*’, ATL-PHYS-PUB-2015-030. **One of the first ATLAS supersymmetry analyses to show performance results with LHC run 2.**
3. ATLAS Collaboration (**A.J. Barr** editor of Supersymmetry section) “*Physics at a High-Luminosity LHC with ATLAS*”, ATL-PHYS-PUB-2012-001.
4. **A.J. Barr** et al. “*Quest for new phenomena using large jet multiplicities and missing transverse momentum with ATLAS in 20.3/fb of 8 TeV proton-proton collisions : Supporting documentation*”, ATL-COM-PHYS-2012-1814
5. **A.J. Barr** et al. “*Searches for Supersymmetry at the high luminosity LHC with the ATLAS Detector*”, ATL-COM-PHYS-2012-1458
6. **A.J. Barr** et al. “*Search for new phenomena using large jet multiplicities and missing transverse momentum with ATLAS in 5.8 fb⁻¹ of $\sqrt{s} = 8$ TeV proton-proton collisions — supporting documentation*”, ATL-COM-PHYS-2012-964

7. S. Asai et al. "Search for squarks and gluinos using final states with jets and missing transverse momentum with the ATLAS experiment in $\sqrt{s} = 7$ TeV proton-proton collisions: supporting documentation", ATL-COM-PHYS-2012-426
8. **A.J. Barr** et al. "Performance assumptions for an upgraded ATLAS detector at a High-Luminosity LHC", ATL-COM-PHYS-2013-166
9. **A.J. Barr** et al. "Hunt for new phenomena using large jet multiplicities and missing transverse momentum with ATLAS, in $L=4.7 \text{ fb}^{-1}$ of $\sqrt{s} = 7$ TeV proton- proton collisions - supporting documentation", ATL-PHYS-INT-2012-052 (2012)
10. S. Asai et al. "Search for squarks and gluinos using final states with jets and missing transverse momentum with the ATLAS experiment in $\sqrt{s} = 7$ TeV proton-proton collisions: supporting documentation", ATL-PHYS-INT-2012-012 (2012)
11. **A.J. Barr** et al. "Search for new physics in final states with large jet multiplicities and missing transverse momentum using $\sqrt{s} = 7$ TeV pp collisions with the ATLAS detector: supporting documentation", ATL-PHYS-INT-2011-087 (2011)
12. S. Asai et al. "Further search for squarks and gluinos using final states with jets and missing transverse momentum with the ATLAS experiment in $\sqrt{s} = 7$ TeV proton-proton collisions: supporting documentation" ATL-PHYS-INT-2011-085 (2011)
13. F. Ahles et al. (**A.J. Barr** editor) Details on "Early supersymmetry searches in channels with jets and missing transverse momentum with the ATLAS detector", ATL-PHYS-INT-2010-082 (2010)
14. **A.J. Barr** et al "Details on 'Early supersymmetry searches with jets, missing transverse momentum and one or more leptons with the ATLAS Detector", ATL-PHYS-INT-2010-083 (2010)
15. **A.J. Barr** et al, "Prospects for Higgs Boson Searches using the $H \rightarrow WW^{(*)} \rightarrow l\nu l\nu$ decay mode with the ATLAS detector for 10 TeV" ATL-COM-PHYS-2010-185 (2010)
16. C.J.S. Young and **A.J. Barr**, "Estimating the QCD Background to SUSY signals by measuring the Jet Transfer Function in Di-Jet data", ATL-COM-PHYS-2010-160
17. ATLAS Collaboration, "Multi-lepton supersymmetry searches", ATL-PHYS-PUB-2009-068 (2009)
18. ATLAS Collaboration, "Prospects for supersymmetry discovery based on inclusive searches", ATL-PHYS-PUB-2009-066 (2009)
19. A. Armbruster et al. "Higgs boson searches using the $H \rightarrow WW^{*} \rightarrow ll\nu\nu$ decay mode with the ATLAS Detector", ATL-COM-PHYS-2009-620 (2009)
20. O. Brandt, **A.J. Barr**, P. Bruckman de Renstrom "Search strategies for Supersymmetry in tri-lepton final states with the ATLAS detector at the Large Hadron Collider" ATL-COM-PHYS-2008-005 (2008)
21. **A. Barr** et al. "Usage of the Distributed Analysis Tools in The ATLAS Supersymmetry Working Group" ATL-SOFT-INT-2007-005 (2007)
22. A. Abdesselam et al. "The Detector Control System of the ATLAS SemiConductor Tracker during Macro-Assembly and Integration" ATL-COM-INDET-2007-010 (2007)
23. **A.J. Barr** et. al. "Reflections on the first ATLAS Blind Data Challenge", ATLAS note ATL-COM-PHYS-2006-038 (2006)
24. **A.J. Barr** et. al. "Observations concerning the first ATLAS Blind Data Challenge", ATLAS note ATL-PHYS-2004-021 (2004)
25. **A.J. Barr** et. al. "Beamtest results of ATLAS SCT Modules in 2002" ATLAS note ATL-INDET-2004-006 (2004)

26. **A.J. Barr** *et. al.* "Results from and LHC structured beam test on SCT module prototypes", ATLAS note ATL-INDET-2002-025 (2002)
27. **A.J. Barr** *et. al.* "Beamtests of ATLAS SCT Modules in August and October 2001", ATLAS note ATL-INDET-2002-024 (2002)
28. **A.J. Barr** *et. al.* "Beamtests of Prototype ATLAS SCT Modules at CERN H8 in June and August 2000", ATLAS note ATL-INDET-2002-005 (2002)

ⁱ <http://atlas-physics-updates.web.cern.ch/atlas-physics-updates/2015/08/24/devouring-dark-matter-theories/>

ⁱⁱ <http://resonaances.blogspot.co.uk/2015/08/weekend-plot-susy-limits-rehashed.html>

ⁱⁱⁱ <http://atlas-physics-updates.web.cern.ch/atlas-physics-updates/2015/01/09/in-search-of-super-charm/>

^{iv} <http://sciencewatch.com/ana/st/hadron/papers2yr/>