

Publication list from Christian Regenfus – June 2, 2017

1. **“Cryogenic Characterization of FBK RGB-HD SiPMs”**
C. E. Aalseth *et al.*.
arXiv:1705.07028 [physics.ins-det]
FERMILAB-PUB-17-178-E
2. **“The DarkSide experiment”**
B. Bottino *et al.*.
DOI:10.1393/ncc/i2017-17052-3
Nuovo Cim. C **40**, no. 1, 52 (2017).
3. **“Commissioning of the ArDM experiment at the Canfranc underground laboratory: first steps towards a tonne-scale liquid argon time projection chamber for Dark Matter searches”**
J. Calvo *et al.* [ArDM Collaboration].
arXiv:1612.06375 [physics.ins-det]
DOI:10.1088/1475-7516/2017/03/003
JCAP **1703**, no. 03, 003 (2017)
4. **“Measurement of the attenuation length of argon scintillation light in the ArDM LAr TPC”**
J. Calvo *et al.* [ArDM Collaboration].
arXiv:1611.02481 [astro-ph.IM]
5. **“First test of a high voltage feedthrough for liquid Argon TPCs connected to a 300 kV power supply”**
C. Cantini *et al.*.
arXiv:1611.02085 [physics.ins-det]
DOI:10.1088/1748-0221/12/03/P03021
JINST **12**, no. 03, P03021 (2017)
6. **“Towards a test of the weak equivalence principle of gravity using anti-hydrogen at CERN”**
D. Banerjee *et al.*.
DOI:10.1109/CPEM.2016.7540781
7. **“Long-Baseline Neutrino Facility (LBNF) and Deep Underground Neutrino Experiment (DUNE) : Volume 1: The LBNF and DUNE Projects”**
R. Acciarri *et al.* [DUNE Collaboration].
arXiv:1601.05471 [physics.ins-det]
FERMILAB-DESIGN-2016-01
8. **“Long-Baseline Neutrino Facility (LBNF) and Deep Underground Neutrino Experiment (DUNE) : Volume 4 The DUNE Detectors at LBNF”**
R. Acciarri *et al.* [DUNE Collaboration].
arXiv:1601.02984 [physics.ins-det]
FERMILAB-DESIGN-2016-04
9. **“Long-Baseline Neutrino Facility (LBNF) and Deep Underground Neutrino Experiment (DUNE) : Volume 2: The Physics Program for DUNE at LBNF”**
R. Acciarri *et al.* [DUNE Collaboration].
arXiv:1512.06148 [physics.ins-det]
FERMILAB-DESIGN-2016-02

10. **“Recent R&D results on LAr LEM TPC and plans for LBNO demonstrators”**
C. Cantini *et al.* [LAGUNA-LBNO and WA105 Collaborations].
DOI:10.1088/1742-6596/650/1/012011
J. Phys. Conf. Ser. **650**, no. 1, 012011 (2015).
11. **“Status of ArDM-1t: First observations from operation with a full ton-scale liquid argon target”**
J. Calvo *et al.* [ArDM Collaboration].
arXiv:1505.02443 [physics.ins-det]
12. **“The GBAR antimatter gravity experiment”**
P. Pérez *et al.*
DOI:10.1007/s10751-015-1154-8
Hyperfine Interact. **233**, no. 1-3, 21 (2015).
13. **“Performance study of the effective gain of the double phase liquid Argon LEM Time Projection Chamber”**
C. Cantini *et al.*
arXiv:1412.4402 [physics.ins-det]
DOI:10.1088/1748-0221/10/03/P03017
JINST **10**, no. 03, P03017 (2015)
14. **“LBNO-DEMO: Large-scale neutrino detector demonstrators for phased performance assessment in view of a long-baseline oscillation experiment”**
I. De Bonis *et al.*
arXiv:1409.4405 [physics.ins-det]
CERN-SPSC-2014-013, SPSC-TDR-004
15. **“Investigation of silicon sensors for their use as antiproton annihilation detectors”**
N. Pacifico *et al.*
DOI:10.1016/j.nima.2014.06.036
Nucl. Instrum. Meth. A **765**, 161 (2014).
16. **“A moiré deflectometer for antimatter”**
S. Aghion *et al.* [AEgIS Collaboration].
DOI:10.1038/ncomms5538
Nature Commun. **5**, 4538 (2014).
17. **“The AEgIS Experiment”**
A. Knecht *et al.*
DOI:10.1007/s10751-014-1057-0
Hyperfine Interact. **228**, no. 1-3, 121 (2014).
18. **“Detection of low energy antiproton annihilations in a segmented silicon detector”**
S. Aghion *et al.*
DOI:10.1088/1748-0221/9/06/P06020
JINST **9**, P06020 (2014).
19. **“Measuring GBAR with emulsion detector”**
T. Ariga *et al.*
DOI:10.1142/S2010194514602683
Int. J. Mod. Phys. Conf. Ser. **30**, 1460268 (2014).
20. **“Measuring \bar{g} with AEgIS, progress and perspectives”**
D. Krasnický *et al.*
DOI:10.1142/S2010194514602622
Int. J. Mod. Phys. Conf. Ser. **30**, 1460262 (2014).
21. **“Measuring the gravitational free-fall of antihydrogen”**
J. Storey *et al.*
DOI:10.1007/s10751-014-1055-2
Hyperfine Interact. **228**, no. 1-3, 151 (2014).

22. **“AEGIS Experiment: Measuring the acceleration g of the earth’s gravitational field on antihydrogen beam”**
M. A. Subieta Vasquez *et al.*
DOI:10.1051/epjconf/20147100128
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23. **“AEGIS experiment: Towards antihydrogen beam production for antimatter gravity measurements”**
S. Mariazzi *et al.*
DOI:10.1140/epjd/e2013-40690-3
Eur. Phys. J. D **68**, 41 (2014).
24. **“Development of nuclear emulsions operating in vacuum for the AEGIS experiment”**
P. Scampoli *et al.* [AEGIS Collaboration].
DOI:10.1088/1748-0221/9/01/C01061
JINST **9**, no. 01, C01061 (2014).
25. **“Particle tracking at 4K: The Fast Annihilation Cryogenic Tracking (FACT) detector for the AEGIS antimatter gravity experiment”**
J. Storey *et al.*
DOI:10.1016/j.nima.2013.05.130
Nucl. Instrum. Meth. A **732**, 437 (2013).
26. **“Development of nuclear emulsions with 1 μm spatial resolution for the AEGIS experiment”**
M. Kimura *et al.*
DOI:10.1016/j.nima.2013.04.082
Nucl. Instrum. Meth. A **732**, 325 (2013).
27. **“Annihilation of low energy antiprotons in silicon”**
S. Aghion *et al.*
arXiv:1311.4982 [physics.ins-det]
28. **“Prospects for measuring the gravitational free-fall of antihydrogen with emulsion detectors”**
S. Aghion *et al.* [AEGIS Collaboration].
arXiv:1306.5602 [physics.ins-det]
DOI:10.1088/1748-0221/8/08/P08013
JINST **8**, P08013 (2013)
29. **“AEGIS experiment commissioning at CERN”**
D. Krasnický *et al.*
DOI:10.1063/1.4796070
AIP Conf. Proc. , 144 (2013).
30. **“Annihilation of low energy antiprotons in silicon sensors”**
A. Gligorova *et al.*
DOI:10.1109/NSSMIC.2013.6829519
31. **“Further evidence for low-energy protonium production in vacuum”**
E. Lodi Rizzini *et al.*
DOI:10.1140/epjp/i2012-12124-9
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32. **“Exploring the WEP with a pulsed cold beam of antihydrogen”**
M. Doser *et al.* [AEGIS Collaboration].
DOI:10.1088/0264-9381/29/18/184009
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33. **“Study of nuclear recoils in liquid argon with monoenergetic neutrons”**
C. Regenfus, Y. Allkofer, C. Amsler, W. Creus, A. Ferella, J. Rochet and M. Walter.

- arXiv:1203.0849 [astro-ph.IM]
DOI:10.1088/1742-6596/375/1/012019
J. Phys. Conf. Ser. **375**, 012019 (2012)
34. **“The AEGIS experiment at CERN”**
A. Kellerbauer *et al.*
DOI:10.1007/s10751-012-0583-x
Hyperfine Interact. **209**, no. 1-3, 43 (2012).
35. **“Search for supersymmetry in pp collisions at $\sqrt{s} = 7$ TeV in events with a single lepton, jets, and missing transverse momentum”**
S. Chatrchyan *et al.* [CMS Collaboration].
arXiv:1107.1870 [hep-ex]
DOI:10.1007/JHEP08(2011)156
JHEP **1108**, 156 (2011)
CERN-PH-EP-2011-084, CMS-SUS-10-006
36. **“A search for excited leptons in pp Collisions at $\sqrt{s} = 7$ TeV”**
S. Chatrchyan *et al.* [CMS Collaboration].
arXiv:1107.1773 [hep-ex]
DOI:10.1016/j.physletb.2011.09.021
Phys. Lett. B **704**, 143 (2011)
CERN-PH-EP-2011-081, CMS-EXO-10-016
37. **“Measurement of the Underlying Event Activity at the LHC with $\sqrt{s} = 7$ TeV and Comparison with $\sqrt{s} = 0.9$ TeV”**
S. Chatrchyan *et al.* [CMS Collaboration].
arXiv:1107.0330 [hep-ex]
DOI:10.1007/JHEP09(2011)109
JHEP **1109**, 109 (2011)
CERN-PH-EP-2011-059, CMS-QCD-10-010
38. **“Missing transverse energy performance of the CMS detector”**
S. Chatrchyan *et al.* [CMS Collaboration].
arXiv:1106.5048 [physics.ins-det]
DOI:10.1088/1748-0221/6/09/P09001
JINST **6**, P09001 (2011)
CERN-PH-EP-2011-051, CMS-JME-10-009
39. **“Search for New Physics with a Mono-Jet and Missing Transverse Energy in pp Collisions at $\sqrt{s} = 7$ TeV”**
S. Chatrchyan *et al.* [CMS Collaboration].
arXiv:1106.4775 [hep-ex]
DOI:10.1103/PhysRevLett.107.201804
Phys. Rev. Lett. **107**, 201804 (2011)
CERN-PH-EP-2011-070, CMS-EXO-11-003
40. **“Search for New Physics with Jets and Missing Transverse Momentum in pp collisions at $\sqrt{s} = 7$ TeV”**
S. Chatrchyan *et al.* [CMS Collaboration].
arXiv:1106.4503 [hep-ex]
DOI:10.1007/JHEP08(2011)155
JHEP **1108**, 155 (2011)
CERN-PH-EP-2011-065, CMS-SUS-10-005
41. **“Measurement of the Strange B Meson Production Cross Section with J/Ψ ϕ Decays in pp Collisions at $\sqrt{s} = 7$ TeV”**
S. Chatrchyan *et al.* [CMS Collaboration].
arXiv:1106.4048 [hep-ex]
DOI:10.1103/PhysRevD.84.052008

Phys. Rev. D **84**, 052008 (2011)
CERN-PH-EP-2011-063, CMS-BPH-10-013

42. **“Search for Supersymmetry in Events with b Jets and Missing Transverse Momentum at the LHC”**
S. Chatrchyan *et al.* [CMS Collaboration].
arXiv:1106.3272 [hep-ex]
DOI:10.1007/JHEP07(2011)113
JHEP **1107**, 113 (2011)
CERN-PH-EP-2011-067, CMS-SUS-10-011
43. **“Measurement of the t -channel single top quark production cross section in pp collisions at $\sqrt{s} = 7$ TeV”**
S. Chatrchyan *et al.* [CMS Collaboration].
arXiv:1106.3052 [hep-ex]
DOI:10.1103/PhysRevLett.107.091802
Phys. Rev. Lett. **107**, 091802 (2011)
CERN-PH-EP-2011-066, CMS-TOP-10-008
44. **“Search for Light Resonances Decaying into Pairs of Muons as a Signal of New Physics”**
S. Chatrchyan *et al.* [CMS Collaboration].
arXiv:1106.2375 [hep-ex]
DOI:10.1007/JHEP07(2011)098
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CERN-PH-EP-2011-064, CMS-EXO-11-013
45. **“Measurement of the Top-antitop Production Cross Section in pp Collisions at $\sqrt{s} = 7$ TeV using the Kinematic Properties of Events with Leptons and Jets”**
S. Chatrchyan *et al.* [CMS Collaboration].
arXiv:1106.0902 [hep-ex]
DOI:10.1140/epjc/s10052-011-1721-3
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CERN-PH-EP-2011-060, CMS-TOP-10-002
46. **“Search for physics beyond the standard model using multilepton signatures in pp collisions at $\sqrt{s} = 7$ TeV”**
S. Chatrchyan *et al.* [CMS Collaboration].
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CERN-PH-EP-2011-046, CMS-SUS-10-008
47. **“Measurement of the ratio of the 3-jet to 2-jet cross sections in pp collisions at $\sqrt{s} = 7$ TeV”**
S. Chatrchyan *et al.* [CMS Collaboration].
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DOI:10.1016/j.physletb.2011.07.067
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CERN-PH-EP-2011-044, CMS-QCD-10-012
48. **“Measurement of the Inclusive Jet Cross Section in pp Collisions at $\sqrt{s} = 7$ TeV”**
S. Chatrchyan *et al.* [CMS Collaboration].
arXiv:1106.0208 [hep-ex]
DOI:10.1103/PhysRevLett.107.132001
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CERN-PH-EP-2011-053, CMS-QCD-10-011
49. **“Measurement of the $t\bar{t}$ production cross section and the top quark mass in the dilepton channel in pp collisions at $\sqrt{s} = 7$ TeV”**
S. Chatrchyan *et al.* [CMS Collaboration].

arXiv:1105.5661 [hep-ex]
DOI:10.1007/JHEP07(2011)049
JHEP **1107**, 049 (2011)
FERMILAB-PUB-11-309-E, CERN-PH-EP-2011-055, CMS-TOP-11-002

50. **“Search for First Generation Scalar Leptoquarks in the $e\nu jj$ channel in pp collisions at $\sqrt{s} = 7$ TeV”**
S. Chatrchyan *et al.* [CMS Collaboration].
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DOI:10.1016/j.physletb.2011.07.089
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CERN-PH-EP-2011-062, CMS-EXO-10-006
51. **“Search for supersymmetry in events with a lepton, a photon, and large missing transverse energy in pp collisions at $\sqrt{s} = 7$ TeV”**
S. Chatrchyan *et al.* [CMS Collaboration].
arXiv:1105.3152 [hep-ex]
DOI:10.1007/JHEP06(2011)093
JHEP **1106**, 093 (2011)
CERN-PH-EP-2011-058, CMS-SUS-11-002
52. **“Measurement of $W\gamma$ and $Z\gamma$ production in pp collisions at $\sqrt{s} = 7$ TeV”**
S. Chatrchyan *et al.* [CMS Collaboration].
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DOI:10.1016/j.physletb.2011.06.034
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CERN-PH-EP-2011-045, CMS-EWK-10-008
53. **“Long-range and short-range dihadron angular correlations in central PbPb collisions at a nucleon-nucleon center of mass energy of 2.76 TeV”**
S. Chatrchyan *et al.* [CMS Collaboration].
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CERN-PH-EP-2011-056, CMS-HIN-11-001
54. **“Measurement of the Polarization of W Bosons with Large Transverse Momenta in W+Jets Events at the LHC”**
S. Chatrchyan *et al.* [CMS Collaboration].
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CERN-PH-EP-2011-043, CMS-EWK-10-014, CERN-PH-EP-2010-043
55. **“Charged particle transverse momentum spectra in pp collisions at $\sqrt{s} = 0.9$ and 7 TeV”**
S. Chatrchyan *et al.* [CMS Collaboration].
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DOI:10.1007/JHEP08(2011)086
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CERN-PH-EP-2011-049, CMS-QCD-10-008
56. **“Search for new physics with same-sign isolated dilepton events with jets and missing transverse energy at the LHC”**
S. Chatrchyan *et al.* [CMS Collaboration].
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DOI:10.1007/JHEP06(2011)077
JHEP **1106**, 077 (2011)
CERN-PH-EP-2011-033, CMS-SUS-10-004

57. **“Measurement of the B^0 production cross section in pp Collisions at $\sqrt{s} = 7$ TeV”**
S. Chatrchyan *et al.* [CMS Collaboration].
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CERN-PH-EP-2011-034, CMS-BPH-10-005
58. **“Measurement of the differential dijet production cross section in proton-proton collisions at $\sqrt{s} = 7$ TeV”**
S. Chatrchyan *et al.* [CMS Collaboration].
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CERN-PH-EP-2011-042, CMS-QCD-10-025
59. **“Measurement of the Inclusive Z Cross Section via Decays to Tau Pairs in pp Collisions at $\sqrt{s} = 7$ TeV”**
S. Chatrchyan *et al.* [CMS Collaboration].
arXiv:1104.1617 [hep-ex]
DOI:10.1007/JHEP08(2011)117
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CERN-PH-EP-2011-035, CMS-EWK-10-013
60. **“Search for Neutral MSSM Higgs Bosons Decaying to Tau Pairs in pp Collisions at $\sqrt{s} = 7$ TeV”**
S. Chatrchyan *et al.* [CMS Collaboration].
arXiv:1104.1619 [hep-ex]
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CERN-PH-EP-2011-027, CMS-HIG-10-002, CERN-EP-PH-2011-027
61. **“Search for Large Extra Dimensions in the Diphoton Final State at the Large Hadron Collider”**
S. Chatrchyan *et al.* [CMS Collaboration].
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DOI:10.1007/JHEP05(2011)085
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CERN-PH-EP-2011-020, CMS-EXO-10-026, CERN-PH-EP-2010-020
62. **“Measurement of the lepton charge asymmetry in inclusive W production in pp collisions at $\sqrt{s} = 7$ TeV”**
S. Chatrchyan *et al.* [CMS Collaboration].
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JHEP **1104**, 050 (2011)
CERN-PH-EP-2011-024, CMS-EWK-10-006
63. **“Search for Physics Beyond the Standard Model in Opposite-Sign Dilepton Events at $\sqrt{s} = 7$ TeV”**
S. Chatrchyan *et al.* [CMS Collaboration].
arXiv:1103.1348 [hep-ex]
DOI:10.1007/JHEP06(2011)026
JHEP **1106**, 026 (2011)
CMS-SUS-10-007, CERN-PH-EP-2011-016
64. **“Search for Supersymmetry in pp Collisions at $\sqrt{s} = 7$ TeV in Events with Two Photons and Missing Transverse Energy”**
S. Chatrchyan *et al.* [CMS Collaboration].
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DOI:10.1103/PhysRevLett.106.211802

- Phys. Rev. Lett. **106**, 211802 (2011)
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65. **“Search for Resonances in the Dilepton Mass Distribution in pp Collisions at $\sqrt{s} = 7$ TeV”**
S. Chatrchyan *et al.* [CMS Collaboration].
arXiv:1103.0981 [hep-ex]
DOI:10.1007/JHEP05(2011)093
JHEP **1105**, 093 (2011)
CERN-PH-EP-2011-002, CMS-EXO-10-013
66. **“Search for a W' boson decaying to a muon and a neutrino in pp collisions at $\sqrt{s} = 7$ TeV”**
S. Chatrchyan *et al.* [CMS Collaboration].
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DOI:10.1016/j.physletb.2011.05.048
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CERN-PH-EP-2011-012, CMS-EXO-10-015
67. **“Measurement of W^+W^- production and search for the Higgs boson in pp collisions at $\sqrt{s} = 7$ TeV”**
S. Chatrchyan *et al.* [CMS Collaboration].
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68. **“Study of Z boson production in PbPb collisions at $\sqrt{s_{NN}} = 2.76$ TeV”**
S. Chatrchyan *et al.* [CMS Collaboration].
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69. **“Search for a Heavy Bottom-like Quark in pp Collisions at $\sqrt{s} = 7$ TeV”**
S. Chatrchyan *et al.* [CMS Collaboration].
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DOI:10.1016/j.physletb.2011.05.074
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CERN-PH-EP-2011-009, CMS-EXO-10-018
70. **“Strange Particle Production in pp Collisions at $\sqrt{s} = 0.9$ and 7 TeV”**
V. Khachatryan *et al.* [CMS Collaboration].
arXiv:1102.4282 [hep-ex]
DOI:10.1007/JHEP05(2011)064
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CERN-PH-EP-2010-094, CMS-QCD-10-007
71. **“Measurement of $B\bar{B}$ Angular Correlations based on Secondary Vertex Reconstruction at $\sqrt{s} = 7$ TeV”**
V. Khachatryan *et al.* [CMS Collaboration].
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CERN-PH-EP-10-093, CMS-BPH-10-010
72. **“Measurement of Dijet Angular Distributions and Search for Quark Compositeness in pp Collisions at $\sqrt{s} = 7$ TeV”**
V. Khachatryan *et al.* [CMS Collaboration].
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CERN-PH-EP-2010-092, CMS-QCD-10-016, CERN-EP-PH-2010-092
73. **“Observation and studies of jet quenching in PbPb collisions at nucleon-nucleon center-of-mass energy = 2.76 TeV”**
S. Chatrchyan *et al.* [CMS Collaboration].
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74. **“First Measurement of Hadronic Event Shapes in pp Collisions at $\sqrt{s} = 7$ TeV”**
V. Khachatryan *et al.* [CMS Collaboration].
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DOI:10.1016/j.physletb.2011.03.060
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CERN-PH-EP-2010-072, CMS-QCD-10-013
75. **“Dijet Azimuthal Decorrelations in pp Collisions at $\sqrt{s} = 7$ TeV”**
V. Khachatryan *et al.* [CMS Collaboration].
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DOI:10.1103/PhysRevLett.106.122003
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CERN-PH-EP-2010-086, CMS-QCD-10-026
76. **“Inclusive b-hadron production cross section with muons in pp collisions at $\sqrt{s} = 7$ TeV”**
V. Khachatryan *et al.* [CMS Collaboration].
arXiv:1101.3512 [hep-ex]
DOI:10.1007/JHEP03(2011)090
JHEP **1103**, 090 (2011)
CERN-PH-EP-2010-088, CMS-BPH-10-007
77. **“Measurement of Bose-Einstein Correlations in pp Collisions at $\sqrt{s} = 0.9$ and 7 TeV”**
V. Khachatryan *et al.* [CMS Collaboration].
arXiv:1101.3518 [hep-ex]
DOI:10.1007/JHEP05(2011)029
JHEP **1105**, 029 (2011)
CERN-PH-EP-2010-091, CMS-QCD-10-023
78. **“Search for Supersymmetry in pp Collisions at 7 TeV in Events with Jets and Missing Transverse Energy”**
V. Khachatryan *et al.* [CMS Collaboration].
arXiv:1101.1628 [hep-ex]
DOI:10.1016/j.physletb.2011.03.021
Phys. Lett. B **698**, 196 (2011)
CERN-PH-EP-2010-084, CMS-SUS-10-003
79. **“Search for Heavy Stable Charged Particles in pp collisions at $\sqrt{s} = 7$ TeV”**
V. Khachatryan *et al.* [CMS Collaboration].
arXiv:1101.1645 [hep-ex]
DOI:10.1007/JHEP03(2011)024
JHEP **1103**, 024 (2011)
CERN-PH-EP-2010-067, CMS-EXO-10-011
80. **“Measurement of the B^+ Production Cross Section in pp Collisions at $\sqrt{s} = 7$ TeV”**
V. Khachatryan *et al.* [CMS Collaboration].
arXiv:1101.0131 [hep-ex]
DOI:10.1103/PhysRevLett.106.112001
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81. **“Measuring the fall of antihydrogen: the AEGIS experiment at CERN”**
M. Doser *et al.*.
DOI:10.1016/j.phpro.2011.06.016
Phys. Procedia **17**, 49 (2011).
82. **“Search for a heavy gauge boson W' in the final state with an electron and large missing transverse energy in pp collisions at $\sqrt{s} = 7$ TeV”**
V. Khachatryan *et al.* [CMS Collaboration].
arXiv:1012.5945 [hep-ex]
DOI:10.1016/j.physletb.2011.02.048
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