

Professor Evelyn Jean Thomson

Professional Experience

Professor of Physics, University of Pennsylvania, 2021-present.
Associate Professor of Physics, University of Pennsylvania, 2010-2021.
Assistant Professor of Physics, University of Pennsylvania, 2004-2010.
Postdoctoral Fellow, The Ohio State University, 1999-2004.
Particle Physics & Astronomy Research Council Fellow, United Kingdom, 1999.

Education

Ph.D. Experimental Particle Physics, University of Glasgow, United Kingdom, 1999,
Measurements of the W boson mass from semileptonic WW events with the ALEPH detector.
B.Sc.(Hons) First Class, Physics, University of Glasgow, United Kingdom, 1995.
Larbert High School, Stirlingshire, United Kingdom, 1985-1991.

Awards

Lindback Award for Distinguished Teaching, University of Pennsylvania, 2023.
American Physical Society Fellow, 2022.
Ira H. Abrams Memorial Award for Distinguished Teaching, School of Arts & Sciences, U. Penn, 2017.
Alfred P. Sloan Foundation Research Fellowship, 2006.
Outstanding Junior Investigator Award, US Department of Energy Office of Science, 2005.
Caledonian Research Foundation Scholarship, Carnegie Trust for The Universities of Scotland, 1995-1998.
Thomson Experimental Physics Prize - University of Glasgow, 1997.
Ede & Ravenscroft Prize - Faculty of Science, University of Glasgow, 1995.
Archibald-M^cAulay Memorial Prize, Michael Faraday Medal - Physics, 1995.
C. E. Strachan Will Trust Scholarship - Faculty of Science, 1994.
Lang Scholarship, Thomson Experimental Prize - Physics, 1994.
Ford-Forrest Bursary, Lanfine Bursary, Michael Faraday Medal - Physics, 1993.
Ford-Forrest Bursary - Mathematics, 1993.
George Roger Muirhead Prize, Joseph Black Medal - Chemistry, 1992.
Academic dux, Larbert High School, 1990.

Grants

US Department of Energy, Office of Science, High Energy Physics:
• US ATLAS HL-LHC Upgrade Project, ITk Readout Electronics, 2017-2024.
• Energy frontier grant, 2010-2012, 2012-2015, 2015-2018, 2018-2021, 2021-2024.
• Outstanding Junior Investigator Award, 2005-2009.
Alfred P. Sloan Foundation Research Fellowship, 2006.

Postdoctoral Advisees (6)

Dr. Michael Hank (Chicago), 2022-present.

Dr. Jeff Dandoy (Chicago), 2016-2023, Carleton University, Canada.

Dr. James Degenhardt (Michigan), 2007-13, Data Scientist at Ford Motor Company, Detroit.

Dr. Saša Fratina (Ljubljana), 2007-12, Market & Liquidity Risk Specialist at Erste Group, Vienna, Austria.

Dr. Chris Neu (Ohio State), 2006-08, Associate Professor at University of Virginia.

Dr. Aafke Kraan (Copenhagen), 2005-06, Scientist at INFN Pisa, Italy.

Current Ph.D. Advisees (5)

Michael Cairo, 2023-present.

Rebecca Hicks, 2023-present with theorist Prof. Jonathan Heckman. NSF graduate fellowship

Benji Lunday, 2023-present.

Bobby McGovern, 2021-present.

Lauren Osojnak, 2020-present. NSF graduate fellowship.

Completed Ph.D. Advisees (8)

James Heinlein (2023), *A search for B-L R-Parity violating scalar top decays with the ATLAS experiment.*

Lucas Flores (2021), *Identifying Electrons and Searching for Electroweak R-Parity Violating Supersymmetry at ATLAS*, Data Scientist at Albeado, San Francisco.

Ian Dyckes (2021), *Search for Trilepton resonances from R-Parity Violating Chargino Decays in the B-L MSSM*, ATLAS postdoc at LBNL, Berkeley.

Leigh Schaefer (2019), *A Search for Wino Pair Production with B-L R-Parity Violating Chargino Decay to a Trilepton Resonance with the ATLAS Experiment*, Data Scientist at Alloy, New York City.

Brett Jackson (2015), *A Search for B-L R-Parity Violating Scalar Top Decays in $\sqrt{s} = 8$ TeV pp collisions with the ATLAS Experiment*, Senior AI/Machine Learning Engineer at Medtronic, Minneapolis.

Elizabeth Hines (2015), *Search for Weakly-Produced Supersymmetry in Same-Sign Di-lepton Final State at $\sqrt{s} = 8$ TeV with the ATLAS Detector*, Data Scientist at eero, San Francisco.

Dominick Olivito (2012), *Search for Anomalous Production of Prompt Like-Sign Lepton Pairs at $\sqrt{s} = 7$ TeV with the ATLAS Detector*, CMS postdoc at UC San Diego, Data Scientist at Tamr, Cambridge.

Justin Keung (2010), *Search for the Production of the Standard Model Z^0 Boson in Association with W^\pm Boson in proton anti-proton collisions at $\sqrt{s} = 1.96$ TeV*, ATLAS postdoc at University of Toronto, high school teacher in Toronto Catholic School District, Canada.

Undergraduate Research

Research projects on ATLAS, including studies of searches for new particles, calibration of jets, tests

of readout electronics. Emphasis on transferable computer programming (Python) and data analysis skills. Awarded funding from US ATLAS Summer Undergraduate Program for Exceptional Researchers (SUPER), and from Penn Undergraduate Research Mentoring Program (PURM).

Seniors honors thesis

- 2023-24: Qi Bin Lei, *High Luminosity Jet Energy Scale Calibration with Machine Learning*, IRIS-HEP at Stanford University.
- 2022-23: Garrett Linney, *Global Neural Network Calibration for Jet Reconstruction*, graduate school at Boston University.
- 2020-21: Nupur Oza, *Phenomenological MSSM Reinterpretation of ATLAS Searches for Supersymmetric Particles*, graduate school at Columbia.
- 2018-19: Adriana Dropulic, *Derivation of Pileup Uncertainties in the ATLAS Jet Calibration*, graduate school at Princeton, NSF graduate fellowship.

Summer Research

- 2024: sophomore Peilin Ye, US ATLAS SUPER award (\$6k)
- 2023: junior Qi Bin Lei; first-years Peilin Ye and Joshua George with PURM award.
- 2022: first-years Sophie Kadan and Hugues Mucyo with PURM award, Ethan Hu, Adrienne Keener.
- 2020: first-year Kristina Znam, US ATLAS SUPER award (\$3.9k).
- 2019: sophomore Sam Panitch, US ATLAS SUPER award (\$4.7k); first-year Caleb Watt and Eli Wiston, PURM award.
- 2018: first-year Sam Panitch and sophomore Pranav Iyer, PURM award.
- 2017: sophomores Aleksandra Kusiak and Jacob Rhode.
- 2016: first-years Brailinson Disla, Kathryn Khaw, Andrew Madigan, Aakash Parikh, Sandy Tang; high school student Seyoung Kim.

Undergraduate Instruction

My teaching record covers the main introductory classes for scientists and engineers, and a graduate class in my research speciality. My instructor quality evaluations are given in the following table.

- Principles of Physics I: Classical Mechanics (PHYS 150/140)
- Principles of Physics II: Electromagnetism and Radiation (PHYS 151/141)
- Principles of Physics III: Thermal Physics, Waves, Special Relativity (PHYS 230/1230)
- Introduction to Elementary Particle Physics (PHYS 522)

Professional Activities

Fermilab Neutrino Scope Group, 2023-present.

ATLAS experiment:

- ATLAS SUSY RPV/LLP working group co-convener, April 2022-March 2024.
- ATLAS speakers committee, elected member October 2018-October 2021.
- US ATLAS Upgrade Level 3 manager ITk silicon strips readout electronics, August 2018-present.
- US ATLAS speakers committee: chair 2016-17, deputy 2015-16, member 2009-11.

US Department of Energy Office of Science High Energy Physics:

- Early Career Award Reviews 2024, 2023, 2022, 2014.
- Energy Frontier National Lab Comparative Review Panel, 2015.
- Committee of Visitors, 2013.

Course	Semester	Students	Instructor Quality (4 maximum)
Physics 0151 (0141)	Spring 2023	46	
Physics 1230	Fall 2023	54	3.00
Sabbatical	Spring 2023		
Physics 1230	Fall 2022	50	3.58
Physics 150 (140)	Spring 2022	51 (3)	3.00 (3.00)
Physics 150 (140)	Fall 2021	60 (11)	3.43 (3.44)
Physics 150 (140)	Spring 2021 online	59 (1)	2.96
Physics 230	Fall 2020 online	62	3.36
Physics 151 (141)	Spring 2020 part-online	59 (11)	3.19 (2.90)
Physics 230	Fall 2019	80	2.75
Physics 151 (141)	Spring 2019	61 (19)	3.36 (3.26)
Physics 230	Fall 2018	59	2.89
Sabbatical	Spring 2018		
Physics 150 (140)	Fall 2017	74 (25)	3.35 (3.64)
Physics 522	Spring 2017	13	3.20
Physics 150 (140)	Fall 2016	74 (28)	3.42 (3.30)
Physics 151 (141)	Spring 2016	99 (43)	3.35 (3.29)
Physics 150 (140)	Fall 2015	79 (25)	3.31 (3.21)
Physics 522	Spring 2015	22	2.86
Physics 150 (140)	Fall 2014	78 (40)	3.24 (3.30)
Physics 151 (141)	Spring 2014	84 (26)	3.20 (3.00)
Physics 150 (140)	Fall 2013	86 (26)	3.21 (3.13)
Physics 151 (141)	Spring 2013 9am	52 (6)	3.36 (3.60)
Physics 150 (140)	Fall 2012	75 (16)	3.29 (3.33)
Parental leave	Spring 2012		
Sabbatical	Fall 2011		
Physics 151 (141)	Spring 2011	88 (39)	3.04 (3.03)
Physics 150 (140)	Fall 2010	66 (31)	3.39 (3.24)
Parental leave	Spring 2010		
Physics 150 (140)	Fall 2009	72 (29)	3.31 (3.62)
Physics 151 (141)	Spring 2009	87 (35)	3.42 (3.27)
Physics 150 (140)	Fall 2008	60 (20)	3.54 (3.59)
Physics 151 (141)	Spring 2008	37 (14)	3.52 (3.80)
Sabbatical	Fall 2007		
Physics 151 (141)	Spring 2007	16 (4)	3.22 (3.00)
Physics 150 (140)	Fall 2006	54 (25)	2.43 (2.10)
Physics 151 (141)	Spring 2006	26 (8)	2.57 (3.40)
Physics 150 (140)	Fall 2005	57 (25)	2.39 (2.16)
Physics 151	Spring 2005	42	1.12

CDF experiment:

- Co-leader of CDF Top Quark Physics Group, 2004-06.
- Co-leader of CDF Top Lepton+Jets Working Group, 2002-04.
- CDF paper review committees (5) on top quark properties, 2004-12.
- Chair of CDF review committee for Run IIb XFT upgrade, 2004-06.
- Commissioning and operation of the extremely Fast Track Trigger (XFT), 1999-2004.

Conference parallel session co-chair:

- Collider Physics at Particles, String Theory, and Cosmology Conference (PASCOS) 2018.
- Exotics at the LHC at International Workshop on Baryon & Lepton Number Violation (BLV) 2017.
- High p_T physics at International Conference on High Energy Physics (ICHEP) 2008.
- Top, Higgs, W & Z Physics at Joint Meeting of Pacific Region Particle Physics Communities, 2006.

Conference international organizing committee:

- International Workshop on Baryon & Lepton Number Violation (BLV) 2022.

Activities at University of Pennsylvania

Department of Physics & Astronomy:

- Vice-chair of Local Organizing Committee for APS Conference for Undergraduate Women in Physics (CUWiP) at Penn, Jan 19-21 2024.
- Committee on Diversity & Inclusion, 2018-2024 (inaugural chair 2018-22).
- Graduate Admissions Committee, 2015-16, 2014-15, 2008-09, 2007-08, 2005-06, 2004-05.
- Colloquium Committee member, 2014-15, 2010-11, 2005-06.
- Committee on Undergraduate Instruction, 2013-14.
- Mentoring Committee, Assistant Professor Jonathan Heckman, 2017-20.
- Faculty Search Committee for Experimental Condensed Matter Physics 2016-17.
- Faculty Search Committees for Experimental Particle Physics 2021-22, 2014-15, 2007-08.
- Experimental Particle Physics Seminar series, organizer 2005-present.
- Penn ATLAS group website.
- Graduate thesis committee member for Joe Mullin (2024), Riley Xu (2024), Avi Kahn (2024), Anna Kofman (2023), Quiyue Liang (2023), Ethan Torres (2023), Sebastian Dumitru (2022), Thomas Rochais (2021), Rachael Creager (2019), Christian Herwig (2019), Alyssa Barlis (2019), Christina Krawiec (2018), Rob Fletcher (2018), Yuedong Fang (2018), Marius Lungu (2017), Rachel Cane Wolf (2017), Prashant Subbarao (2016), Andy Mastbaum (2016), Bade Uzgil (2015), Alan Meert (2015), Chris Lester (2014), Jon Stahlman (2014), Melinda Gildner (2014), Ryan Reece (2013), Elio Angile (2013), Lauren Willis (2013), Michael Hance (2011), Siying Wang (2011), Andre Brown (2009), Tsz Yan Lam (2009), Yan-Jun Tu (2008), and Rutgers University Jared Yamaoka (2007).

School of Arts & Sciences:

- Dean's Council on Diversity, 2018-2024.
- Graduate Wellness Partner, 2020-2022.
- Committee on Undergraduate Education, 2018-2022.
- Pre-major advisor, 2017-present.
- Curriculum Committee, 2015-17.
- Committee on Undergraduate Academic Standing, 2013-14, chair 2014-15.
- Teaching panel member, New Faculty Orientation, August 2016.

- 60-second lecture, April 2009.

University:

- Discussion leader, First-Year Penn Reading Project, 2019, 2015, 2014, 2013, 2010, 2008, 2006, 2005.
- Penn Prize Committee for Graduate Teaching, 2017-18.
- Fund to Encourage Women event, panel member, “Female Scientists in Academia”, March 2009.
- Penn Proseminar, New Student Orientation, September 2008.
- Penn Career Services, panel member, “Preparing for/Making the Most of Your First Year in a New Faculty Position”, April 2006.

Recent presentations

- *ITk Strips readout electronics*, US Department of Energy Office of Science IPR, Brookhaven National Laboratory, February 2024.
- *Search for R-Parity Violating Supersymmetry*, SUSY 2023, Southampton, UK, July 2023.
- *Smashing particles at the Energy Frontier*, colloquium, Temple University, April 2023.
- *ITk Strips readout electronics*, US Department of Energy Office of Science CD-2/3 approval meeting, online, October 2022.
- *ITk Strips readout electronics*, BNL Director’s review of US ATLAS HL-LHC Upgrade, online, June 2022.
- *Beyond standard model physics at the LHC*, invited plenary at the April meeting of the American Physical Society, online, April 2020.
- *Searches for New Physics at the LHC*, colloquium, University of Pennsylvania, April 2020.
- *ITk Strips readout electronics*, US Department of Energy Office of Science CD-3a approval meeting, Brookhaven National Laboratory, July 2019.
- *Searches for New Physics at the LHC*, invited plenary at the Particles, String Theory and Cosmology conference (PASCOS 2019), Manchester, UK, July 2019.
- *Status of the ITk Strips*, ATLAS Collaboration Meeting, CERN, Geneva, June 2019.
- *ITk Strips readout electronics*, BNL Director’s review of US ATLAS HL-LHC Upgrade, Brookhaven National Laboratory, May 2019.
- *Searching for Supersymmetry with ATLAS*, colloquium, University of Virginia, September 2018.
- *Searches for SUSY and Exotics at the LHC*, invited plenary at the International Workshop on Baryon & Lepton Number Violation (BLV 2017), Cleveland, Ohio, May 2017.
- *Searching for New Particles in Proton Collisions*, colloquium, Drexel University, December 2015.
- *Search for direct scalar top production with R-parity violating decay*, parallel session at the American Physical Society Division of Particle & Fields meeting (DPF 2015), Ann Arbor, Michigan, August 2015.
- *Top pair inclusive and differential cross sections*, invited plenary at the Top at Twenty conference, Fermilab, Illinois, April 2015.

Recent presentations by my research group

- Lauren Osojnak, *Searches for supersymmetry in non-minimal models*, ICHEP 2024, Prague, Czech Republic, July 2024.
- Dr. Michael Hank, *Recent results from ATLAS Exotics, SUSY, and BSM Higgs searches*, plenary talk at US ATLAS Annual Meeting, Seattle, June 2024.

- Lauren Osojnak, *A search for R-Parity Violating supersymmetry through top squark pair production in $\sqrt{s} = 13$ TeV collisions with the ATLAS experiment*, DPF-PHENO 2024, Pittsburgh, May 2024.
- Bobby McGovern, *Search for chargino pair-production and chargino-neutralino production with R-Parity Violating decays in pp collisions at $\sqrt{s} = 13$ TeV with ATLAS*, DPF-PHENO 2024, Pittsburgh, May 2024.
- Benji Lunday, *Jet Calibration in ATLAS Using Machine Learning Networks*, DPF-PHENO 2024, Pittsburgh, May 2024.
- Dr. Michael Hank, *Search for pair production of higgsinos in events with two Higgs bosons and missing transverse momentum in $\sqrt{s} = 13$ TeV collisions at the ATLAS experiment*, DPF-PHENO 2024, Pittsburgh, May 2024.
- Qi Bin Lei, *Jet Calibration and Mixture Density Networks*, APS April Meeting 2024, Sacramento, April 2024.
- Peilin Ye, *Reconstruction of Chargino Decays to τh with Missing Transverse Momentum*, APS April Meeting 2024, Sacramento, April 2024.
- Sophie Kadan, *Optimizing Higgs Boson Reconstruction Using Small-R ($R=0.4$) and Large-R ($R=1.0$) Jets*, Poster at APS April Meeting 2024, Sacramento, April 2024.
- Dr. Jeff Dandoy, *Simulated verification of the ASIC functionality and radiation tolerance for the HL-LHC ATLAS ITk Strip Detector*, TWEPP 2022, Bergen, Norway, September 2022.
- Bobby McGovern, *Pre-Production Testing of the HCCStar ASIC at Penn for the ATLAS ITk Detector*, Poster at TWEPP 2022, Bergen, Norway, September 2022.
- Lauren Osojnak, *Search for baryon number violation at the LHC*, BLV 2022, Brussels, Belgium, September 2022.
- Dr. Jeff Dandoy, *Highlights of searches for long-lived particles at the LHC*, SUSY 2022, Ioannina, Greece, June 2022.
- Dr. Jeff Dandoy, *Dark Matter and BSM Searches Highlights at ATLAS and CMS*, La Thuile 2021, online, March 2021.
- Ian Dyckes, *Searches for RPV SUSY at the LHC*, LHCP 2020, online, May 2020.
- Lucas Flores, *The ATLAS Electron and Photon Trigger Performance in Run 2*, poster, Lepton-Photon 2019, Toronto, Canada, August 2019.
- Dr. Jeff Dandoy, *Development and Testing of the ATLAS ITk HCCStar ASIC*, DPF 2019, Boston, July 2019.
- Lucas Flores, *Search for chargino pair-production and chargino-neutralino production with R-parity violating decays*, DPF 2019, Boston, July 2019.
- Leigh Schaefer, *Searches for supersymmetry in R-parity violating and long-lived signatures with the ATLAS detector*, PHENO 2019, Pittsburgh, May 2019.
- Dr. Jeff Dandoy, *Identification of Jets, Missing energy and Boosted Hadronic Resonances in high pile-up conditions with ATLAS*, ICHEP 2018, Seoul, Korea, July 2018.
- Dr. Jeff Dandoy, *Probing perturbative QCD at the ATLAS Experiment*, ICHEP 2018, Seoul, Korea, July 2018.
- Leigh Schaefer, *A Search for B-L R-parity violating scalar top decays in $\sqrt{s} = 13$ TeV pp collisions with the ATLAS experiment*, DPF 2017, Fermilab, Illinois, August 2017.
- Dr. Jeff Dandoy, *Jet Calibration in the ATLAS experiment*, DPF 2017, Fermilab, Illinois, August 2017.

- Dr. Jeff Dandoy, *Measurements of inclusive jet and dijet production and kt splitting scales with the ATLAS detector*, DIS 2017, Birmingham, UK, April 2017.
- Dr. Jeff Dandoy, *The ATLAS Tile Calorimeter, its performance with 13 TeV proton-proton collisions, and its upgrades for the high luminosity LHC*, DIS 2017, Birmingham, UK, April 2017.
- Brett Jackson, *Searches for R-parity violating SUSY*, SUSY 2015, Lake Tahoe, California, August 2015.

Publications in Refereed Journals

I have listed publications where my group is one of the principal authors (**P**) or made important contributions (**I**). A full list of ALEPH, CDF, and ATLAS publications where I am listed as an author is available on request. The ATLAS author list (typically 12 pages) is not included in the ATLAS paper page counts below.

References

- [1] (**P**) *Testing of the HCC and AMAC functionality and radiation tolerance for the HL-LHC ATLAS ITk strip detector*, J. R. Dandoy *et al.*, JINST **18**, no.03, C03017 (2023), 7 pages.
- [2] (**P**) *Irradiation testing of ASICs for the HL-LHC ATLAS ITk Strip Detector*, J. R. Dandoy *et al.*, JINST **18**, no.02, C02044 (2023), 7 pages.
- [3] (**P**) *Quality control testing of the HCC ASIC for the HL-LHC ATLAS ITk strip detector*, J. R. Dandoy *et al.*, JINST **18**, no.02, C02026 (2023), 8 pages.
- [4] (**P**) *Quality control testing of the AMAC ASIC for the HL-LHC ATLAS ITk Strip Detector*, T. C. Gosart *et al.*, JINST **18**, no.02, C02013 (2023), 8 pages.
- [5] (**I**) *Search for chargino-neutralino pair production in final states with three leptons and missing transverse momentum in $\sqrt{s} = 13$ TeV p-p collisions with the ATLAS detector*, [ATLAS Collaboration], Eur. Phys. J. C **81**, no.12, 1118 (2021), 41 pages.
- [6] (**P**) *Search for trilepton resonances from chargino and neutralino pair production in $\sqrt{s} = 13$ TeV pp collisions with the ATLAS detector*, G. Aad *et al.* [ATLAS Collaboration], Phys. Rev. D **103**, no.11 (2021) 112003, 24 pages.
- [7] (**I**) *Search for chargino-neutralino production with mass splittings near the electroweak scale in three-lepton final states in $\sqrt{s} = 13$ TeV pp collisions with the ATLAS detector*, G. Aad *et al.* [ATLAS Collaboration], Phys. Rev. D **101**, no.7, 072001 (2020), 28 pages.
- [8] (**I**) *Electron and photon performance measurements with the ATLAS detector using the 2015-2017 LHC proton-proton collision data*, G. Aad *et al.* [ATLAS Collaboration], JINST **14**, no.12, P12006 (2019), 51 pages.
- [9] (**I**) *Electron reconstruction and identification in the ATLAS experiment using the 2015 and 2016 LHC proton-proton collision data at $\sqrt{s} = 13$ TeV*, M. Aaboud *et al.* [ATLAS Collaboration], Eur. Phys. J. C **79**, no.8, 639 (2019), 27 pages.
- [10] (**P**) *Search for B-L R-parity violating top squarks in $\sqrt{s} = 13$ TeV pp collisions with the ATLAS experiment*, M. Aaboud *et al.* [ATLAS Collaboration], Phys. Rev. D **97**, no.3, 032003 (2018), 15 pages.

- [11] **(P)** *Jet energy scale measurements and their systematic uncertainties in proton-proton collisions at $\sqrt{s} = 13$ TeV with the ATLAS detector*, M. Aaboud *et al.* [ATLAS Collaboration], Phys. Rev. D **96**, no.7, 072002 (2017), 22 pages.
- [12] **(I)** *Search for the electroweak production of supersymmetric particles in $\sqrt{s} = 8$ TeV pp collisions with the ATLAS detector*, G. Aad *et al.* [ATLAS Collaboration], Phys. Rev. D **93**, no.5, 052002 (2016), 37 pages.
- [13] **(P)** *Combination of Measurements of the Top-Quark Pair Production Cross Section from the Tevatron Collider*, T. A. Aaltonen *et al.* [CDF and DØ Collaborations], Phys. Rev. D **89**, no.7, 072001 (2014), 12 pages.
- [14] **(I)** *Search for new particles in events with one lepton and missing transverse momentum in pp collisions at $\sqrt{s} = 8$ TeV with the ATLAS detector*, G. Aad *et al.* [ATLAS Collaboration], JHEP **09**, 037 (2014), 28 pages.
- [15] **(I)** *Search for direct production of charginos, neutralinos and sleptons in final states with two leptons and missing transverse momentum in pp collisions at $\sqrt{s} = 8$ TeV with the ATLAS detector*, G. Aad *et al.* [ATLAS Collaboration], JHEP **05**, 071 (2014), 32 pages.
- [16] **(I)** *Search for direct slepton and gaugino production in final states with two leptons and missing transverse momentum with the ATLAS detector in pp collisions at $\sqrt{s} = 7$ TeV*, G. Aad *et al.* [ATLAS Collaboration], Phys. Lett. B **718**, 879-901 (2013), 14 pages.
- [17] **(P)** *Search for doubly-charged Higgs bosons in like-sign dilepton final states at $\sqrt{s} = 7$ TeV with the ATLAS detector*, G. Aad *et al.* [ATLAS Collaboration], Eur. Phys. J. C **72**, 2244 (2012), 5 pages.
- [18] **(P)** *Search for anomalous production of prompt like-sign lepton pairs at $\sqrt{s} = 7$ TeV with the ATLAS detector*, G. Aad *et al.* [ATLAS Collaboration], JHEP **12**, 007 (2012), 22 pages.
- [19] **(P)** *ATLAS search for a heavy gauge boson decaying to a charged lepton and a neutrino in pp collisions at $\sqrt{s} = 7$ TeV*, G. Aad *et al.* [ATLAS Collaboration], Eur. Phys. J. C **72**, 2241 (2012), 11 pages.
- [20] **(I)** *Search for high-mass resonances decaying to dilepton final states in pp collisions at $\sqrt{s} = 7$ TeV with the ATLAS detector*, G. Aad *et al.* [ATLAS Collaboration], JHEP **11**, 138 (2012), 31 pages.
- [21] **(I)** *Search for pair production of first or second generation leptoquarks in proton-proton collisions at $\sqrt{s} = 7$ TeV using the ATLAS detector at the LHC*, G. Aad *et al.* [ATLAS] Collaboration, Phys. Rev. D **83**, 112006 (2011), 14 pages.
- [22] **(P)** *Search for a heavy gauge boson decaying to a charged lepton and a neutrino in 1 fb^{-1} of pp collisions at $\sqrt{s} = 7$ TeV using the ATLAS detector*, G. Aad *et al.* [ATLAS Collaboration], Phys. Lett. B **705**, 28-46 (2011), 9 pages.
- [23] **(I)** *Search for dilepton resonances in pp collisions at $\sqrt{s} = 7$ TeV with the ATLAS detector*, G. Aad *et al.* [ATLAS Collaboration], Phys. Rev. Lett. **107**, 272002 (2011), 6 pages.
- [24] **(P)** *Search for high mass dilepton resonances in pp collisions at $\sqrt{s} = 7$ TeV with the ATLAS experiment*, G. Aad *et al.* [ATLAS Collaboration], Phys. Lett. B **700**, 163-180 (2011), 6 pages.
- [25] **(P)** *First measurement of the b-jet production cross section in events with a W boson in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV*, T. Aaltonen *et al.* [CDF Collaboration], Phys. Rev. Lett. **104**, 131801 (2010), 7 pages.
- [26] **(I)** *The ATLAS TRT end-cap detectors*, E. Abat *et al.*, JINST **3**, P10003 (2008), 69 pages.
- [27] **(I)** *The ATLAS TRT electronics*, E. Abat *et al.*, JINST **3**, P06007 (2008), 84 pages.
- [28] **(P)** *Top quark properties and interactions*, E. J. Thomson and R. Demina, Ann. Rev. Nucl. Part. Sci.

- 58, 125-146 (2008), 22 pages.
- [29] **(P)** *Search for $V + A$ current in top quark decay in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV*, A. Abulencia *et al.* [CDF Collaboration], Phys. Rev. Lett. **98**, 072001 (2007), 7 pages.
 - [30] **(I)** *Measurement of the $t\bar{t}$ production cross section in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV using lepton + jets events with jet probability b -tagging*, A. Abulencia *et al.* [CDF Collaboration], Phys. Rev. D **74**, 072006 (2006), 38 pages.
 - [31] **(I)** *Measurement of the $t\bar{t}$ production cross section in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV in the all hadronic decay mode*, A. Abulencia *et al.* [CDF Collaboration], Phys. Rev. D **74**, 072005 (2006), 9 pages.
 - [32] **(I)** *Measurement of the $t\bar{t}$ production cross section in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV*, A. Abulencia *et al.* [CDF Collaboration], Phys. Rev. Lett. **97**, 082004 (2006), 7 pages.
 - [33] **(I)** *Measurement of the $t\bar{t}$ production cross section in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV using missing E_T + jets events with secondary vertex b -tagging*, A. Abulencia *et al.* [CDF Collaboration], Phys. Rev. Lett. **96**, 202002 (2006), 7 pages.
 - [34] **(I)** *Measurement of the top quark mass using template methods on dilepton events in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV*, A. Abulencia *et al.* [CDF Collaboration], Phys. Rev. D **73**, 112006 (2006), 23 pages.
 - [35] **(I)** *Measurement of the top quark mass with the dynamical likelihood method using lepton plus jets events with b -tags in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV*, A. Abulencia *et al.* [CDF Collaboration], Phys. Rev. D **73**, 092002 (2006), 26 pages.
 - [36] **(I)** *Search for anomalous semileptonic decay of heavy flavor hadrons produced in association with a W boson at CDF II*, A. Abulencia *et al.* [CDF Collaboration], Phys. Rev. D **73**, 051101 (2006), 8 pages.
 - [37] **(I)** *Top quark mass measurement from dilepton events at CDF II*, A. Abulencia *et al.* [CDF Collaboration], Phys. Rev. Lett. **96**, 152002 (2006), 7 pages.
 - [38] **(I)** *Measurement of the helicity of W bosons in top quark decays*, A. Abulencia *et al.* [CDF Collaboration], Phys. Rev. D **73**, 111103 (2006), 7 pages.
 - [39] **(I)** *Top quark mass measurement using the template method in the lepton + jets channel at CDF II*, A. Abulencia *et al.* [CDF Collaboration], Phys. Rev. D **73**, 032003 (2006), 35 pages.
 - [40] **(I)** *Precision top quark mass measurement in the lepton + jets topology in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV*, A. Abulencia *et al.* [CDF Collaboration], Phys. Rev. Lett. **96**, 022004 (2006), 7 pages.
 - [41] **(I)** *A search for $t \rightarrow \tau\nu q$ in $t\bar{t}$ production*, A. Abulencia *et al.* [CDF Collaboration], Phys. Lett. B **639**, 172 (2006), 7 pages.
 - [42] **(I)** *Search for charged Higgs bosons from top quark decays in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV*, A. Abulencia *et al.* [CDF Collaboration], Phys. Rev. Lett. **96**, 042003 (2006), 7 pages.
 - [43] **(P)** *Measurement of the cross section for $t\bar{t}$ production in $p\bar{p}$ collisions using the kinematics of lepton + jets events*, D. Acosta *et al.* [CDF Collaboration], Phys. Rev. D **72**, 052003 (2005), 27 pages.
 - [44] **(I)** *Measurement of the $t\bar{t}$ production cross section in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV using lepton plus jets events with semileptonic B decays to muons*, D. Acosta *et al.* [CDF Collaboration], Phys. Rev. D **72**, 032002 (2005), 20 pages.
 - [45] **(I)** *Measurement of $B(t \rightarrow Wb)/B(t \rightarrow Wq)$ at the Collider Detector at Fermilab*, D. Acosta *et al.* [CDF Collaboration], Phys. Rev. Lett. **95**, 102002 (2005), 7 pages.
 - [46] **(I)** *Search for anomalous kinematics in $t\bar{t}$ dilepton events at CDF II*, D. Acosta *et al.* [CDF Collab-

- oration], Phys. Rev. Lett. **95**, 022001 (2005), 7 pages.
- [47] **(I)** *Search for electroweak single top quark production in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV*, D. Acosta *et al.* [CDF Collaboration], Phys. Rev. D **71**, 012005 (2005), 7 pages.
- [48] **(I)** *Measurement of the $t\bar{t}$ production cross section in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV using lepton + jets events with secondary vertex b-tagging*, D. Acosta *et al.* [CDF Collaboration], Phys. Rev. D **71**, 052003 (2005), 28 pages.
- [49] **(I)** *Measurement of the $t\bar{t}$ production cross section in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV using kinematic fitting of b-tagged Lepton + Jet Events*, D. Acosta *et al.*, [CDF Collaboration], Phys. Rev. D **71**, 072005 (2005), 20 pages.
- [50] **(I)** *Measurement of the $t\bar{t}$ production cross section in $p\bar{p}$ collisions at $\sqrt{s} = 1.96$ TeV using dilepton events*, D. Acosta *et al.* [CDF Collaboration], Phys. Rev. Lett. **93**, 142001 (2004), 7 pages.
- [51] **(I)** *Optimized search for single top quark production at the Fermilab Tevatron*, D. Acosta *et al.* [CDF Collaboration], Phys. Rev. D **69**, 052003 (2004), 9 pages.
- [52] **(I)** *Measurement of the W mass and width in e^+e^- collisions at 189 GeV*, R. Barate *et al.* [ALEPH Collaboration], Eur. Phys. J. C **17**, 241-261 (2000), 21 pages.
- [53] **(P)** *Measurement of the W mass in e^+e^- collisions at 183 GeV*, R. Barate *et al.* [ALEPH Collaboration], Phys. Lett. B **453**, 121-137 (1999), 17 pages.
- [54] **(P)** *Measurement of the W mass by direct reconstruction in e^+e^- collisions at 172 GeV*, R. Barate *et al.* [ALEPH Collaboration], Phys. Lett. B **422**, 384-398 (1998), 15 pages.

Conference Publications

- [55] **(I)** *On Baryon and Lepton Number Violation*, P. Fileviez Perez *et al.*, [arXiv:2208.00010 [hep-ph]], (2022), 41 pages. Snowmass Rare Processes and Precision Measurements Frontier.
- [56] **(I)** *The Future Circular Collider: a Summary for the US 2021 Snowmass Process*, G. Bernardi *et al.*, [arXiv:2203.06520 [hep-ex]], (2022), 84 pages.
- [57] **(P)** *A search for B-L R-parity violating scalar top decays in $\sqrt{s} = 8$ TeV pp collisions with the ATLAS experiment*, [ATLAS Collaboration], ATLAS-CONF-2015-015, March 2015, 28 pages, superseded by publication [10].
- [58] **(P)** *Particle Identification Performance of the ATLAS Transition Radiation Tracker*, [ATLAS Collaboration], ATLAS-CONF-2011-128, September 2011, 18 pages.
- [59] **(P)** *Calibration of the ATLAS Transition Radiation Tracker*, [ATLAS Collaboration], ATLAS-CONF-2011-006, February 2011, 21 pages.
- [60] **(P)** *Progress in top quark physics*, E. J. Thomson on behalf of the CDF and DØ Collaborations, in proceedings of PANIC 2005, Santa Fe, New Mexico, October 2005. AIP Conf. Proc. **842**, 565-575 (2006), 13 pages.
- [61] **(P)** *Recent physics results from CDF and DØ*, E. J. Thomson on behalf of the CDF and DØ Collaborations, in proceedings of The 31st SLAC Summer Institute on Particle Physics: Cosmic Connection to Particle Physics (SSI 2003), Menlo Park, California, 28 July - 8 August 2003, eConf **C0307282**, TTH03 (2003) SSI-2003-TTH03, 42 pages.
- [62] **(P)** *Online track processor for the CDF upgrade*, E. J. Thomson *et al.*, presented at IEEE 2001 Nuclear Science Symposium (NSS) and Medical Imaging Conference (MIC), San Diego, California, 4-10 November 2001, IEEE Trans. Nucl. Sci. **49**, 1063-1070 (2002), 6 pages.

- [63] **(P)** *W Mass Measurements At LEP And The Tevatron*, M. Lancaster, R. W. L. Jones and E. J. Thomson, prepared for UK Phenomenology Workshop on Collider Physics, Durham, England, 19-24 September 1999, *J. Phys. G* **26**, 616-626 (2000), 11 pages.
- [64] **(P)** *New results on interference effects and correlations*, E. J. Thomson on behalf of the ALEPH Collaboration, Proceedings of International Europhysics Conference on High-Energy Physics (EPS-HEP 99), Tampere, Finland, 15-21 July 1999, edited by K. Huitu, H. Kurki-Suonio, J. Maalampi (UK Institute of Physics) 502-504, 3 pages.