

William K. DiClemente

CONTACT INFORMATION

will.diclemente@gmail.com
(414) 617-2645

CURRENT ADDRESS

3200 Summer St. Unit 5
Philadelphia, PA 19104

EDUCATION

University of Pennsylvania, Philadelphia, PA
Doctor of Philosophy, Physics (Experimental Particle Physics), May 2019
Masters of Science, Physics, May 2015

Duke University, Durham, NC
Bachelor of Science, Physics (High Distinction), May 2013
Minors, Mathematics, May 2013

TECHNICAL SKILLS

Programming Languages: C++, Python
Data Analysis Frameworks: ROOT, PyROOT
Familiar: Unix-based OS, L^AT_EX, Git, Java, Matlab, Fortran

EXPERIENCE

ATLAS Experiment (CERN) <i>Particle physics researcher</i>	University of Pennsylvania Philadelphia, PA	2014-2019
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Duke University Durham, NC	2010-2013
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Physics research with the ATLAS Collaboration at the CERN Large Hadron Collider (LHC) as a graduate and undergraduate student. Research involves using and writing analysis software to read through the large volumes of data collected by the experiment.

- Physics analysis (2011-2013, 2015-2019): Analysis of LHC data to identify and measure particular particle interactions, such as electroweak bosons, and compare to theoretical predictions.
- Detector performance (2014-2019): Maintain high measurement quality by deriving and applying software-level corrections to account for physical movements of detector elements.

Physics Lab <i>Teaching Assistant</i>	University of Pennsylvania Philadelphia, PA	2013-2014
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Taught the laboratory component of the undergraduate introductory physics courses: three mechanics and two electricity and magnetism labs across three semesters. Responsibilities included demos and guidance, teaching necessary content if not covered in lecture, lab report grading.

HOBBIES & INTERESTS

- Cello
- IM sports
- BoI screams

PUBLICATIONS

DiClemente, William K., *Measurement of Electroweak Production of Same-Sign W Boson Pairs with ATLAS*. PhD thesis, May, 2019. <http://cds.cern.ch/record/2674035>. Presented 21 Feb, 2019.

ATLAS Collaboration, *Observation of electroweak production of a same-sign WW boson pair in association with two jets in pp collisions at $\sqrt{s} = 13$ TeV with the ATLAS detector*. Submitted to Phys. Rev. Lett. June 2019. [arXiv:1906.03203](https://arxiv.org/abs/1906.03203) [hep-ex].

ATLAS Collaboration, *Prospects for the measurement of the $W^\pm W^\pm$ scattering cross section and extraction of the longitudinal scattering component in pp collisions at the High-Luminosity LHC with the ATLAS experiment*. CERN, Geneva, Dec, 2018. <http://cds.cern.ch/record/2652447>.

ATLAS Collaboration, *Measurement of the $W^\pm Z$ boson pair-production cross section in pp collisions at $\sqrt{s} = 13$ TeV with the ATLAS detector*. Phys. Lett. **B762** (2016) 1-22, [arXiv:1606.04017](https://arxiv.org/abs/1606.04017) [hep-ex].