

James Bourbeau

CONTACT INFORMATION	E-mail: james.bourbeau@icecube.wisc.edu	
	Webpage: https://jrbourbeau.github.io/	
	GitHub: https://github.com/jrbourbeau	
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EDUCATION	Ph.D. in Physics (in progress)	2013-Present
	UNIVERSITY OF WISCONSIN-MADISON	
	M.S. in Physics	2017
	UNIVERSITY OF WISCONSIN-MADISON	
	B.S. in Physics with Honors	2013
	UNIVERSITY OF TEXAS AT ARLINGTON	
PUBLICATIONS	<ul style="list-style-type: none">• J. Bourbeau, P. Desiati, J.C. Daz Vlez, S. Westerhoff et al. (IceCube Collaboration), <i>Cosmic-Ray Anisotropy with Seven Years of Data from IceCube and IceTop</i>, Proceedings of the 35th International Cosmic Ray Conference. [proceedings].• Y. Bai, J. Bourbeau, and T. Lin. <i>Dark Matter Searches with a Mono-Z' Jet</i>. JHEP 1506, 205 (2015). [arXiv:1504.01395].	
RESEARCH EXPERIENCE	ICECUBE COLLABORATION	2015-Present
	<i>Graduate Researcher</i> , UW-Madison	
	<ul style="list-style-type: none">• Applying machine learning methods to data collected using the IceCube Neutrino Observatory to study the cosmic-ray mass composition	
	HIGH ENERGY PHENOMENOLOGY GROUP	2014-2015
	<i>Graduate Researcher</i> , UW-Madison	
	<ul style="list-style-type: none">• Used effective field theory and simplified model methods to study dark matter signatures at collider experiments. In particular, searching for Z' jets at the LHC.	
	ATLAS FORWARD PROTON (AFP) DETECTOR	2010-2013
	<i>Undergraduate Researcher</i> , UT-Arlington	
	<ul style="list-style-type: none">• Contributed to the development of the AFP detector system, a high-precision time-of-flight detector that was proposed as part of an upgrade to the ATLAS experiment at the LHC.	
	NANOPARTICLE SCINTILLATOR RADIATION DETECTION	2010-2011
	<i>Undergraduate Researcher</i> , UT-Arlington	
	<ul style="list-style-type: none">• Developed a radiation detection setup using PMTs and photodiodes to assess the performance of new nanoparticle scintillators.	
SOFTWARE	I am an active developer, maintainer, and contributor to several projects in the Python data science community. I'm the maintainer of:	
	<ul style="list-style-type: none">• PyCondor-Python API for submitting tasks to an HTCondor distributed cluster.• decotools-Python package to help analyze data collected by the Distributed Electronic Cosmic-ray Observatory (DECO).	

I've also made contributions to other open-source projects such as scikit-learn, dask, mlxtend, etc. See my GitHub profile for full details.

SELECTED TALKS	DARK MATTER SEARCHES WITH A MONO- Z' JET Phenomenology 2015 Symposium–Pittsburgh, PA	May 2015
	DEVELOPMENT OF A FAST TIMING SYSTEM FOR THE ATLAS FORWARD PROTON DETECTOR Contributed Talk. UTA Annual Celebration of Excellence by Students.	March 2012
	<ul style="list-style-type: none">• Received the Provost's Award for an Undergraduate Oral Presentation.	