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STEPHEN PORTILLO

EDUCATION

PhD CANDIDATE ASTRONOMY AND ASTROPHYSICS, HARVARD UNIVERSITY

2012 to date
Secondary Field in Computational Science and Engineering
Adviser: Douglas Finkbeiner

BSc HONORS ASTROPHYSICS, UNIVERSITY OF ALBERTA

2008 to 2012
with First Class Honors

PUBLICATIONS

IMPROVED POINT SOURCE DETECTION IN CROWDED FIELDS USING PROBABILISTIC CATALOGS

S.K.N. Portillo, B.C.G. Lee, T. Daylan, D.P. Finkbeiner, *The Astronomical Journal* **154** 4 (2017).

INFERENCE OF UNRESOLVED POINT SOURCES AT HIGH GALACTIC LATITUDES USING PROBABILISTIC CATALOGS

T. Daylan, S.K.N. Portillo, D.P. Finkbeiner, *The Astrophysical Journal* **839** 4 (2017).

A THEORETICAL FRAMEWORK TO PREDICT THE MOST LIKELY HADRON PATH IN PARTICLE IMAGING

C.-A. Collins-Fekete, L. Volz, S.K.N. Portillo, L. Beaulieu, J. Seco, *Physics in Medicine and Biology* **62** 1777 (2017).

A MAXIMUM LIKELIHOOD METHOD FOR HIGH RESOLUTION PROTON RADIOGRAPHY/PROTON CT

C.-A. Collins-Fekete, S. Brousmiche, S.K.N. Portillo, L. Beaulieu, J. Seco, *Physics in Medicine and Biology* **61** 8232 (2016).

THE CHARACTERIZATION OF THE GAMMA-RAY SIGNAL FROM THE CENTRAL MILKY WAY: A CASE FOR ANNIHILIATING DARK MATTER

T. Daylan, D.P. Finkbeiner, D. Hooper, T. Linden, S.K.N. Portillo, N.L. Rodd, T.R. Slatyer, *Physics of the Dark Universe* **12** 1 (2016).

SHARPER FERMI LAT IMAGES: INSTRUMENT RESPONSE FUNCTIONS FOR AN IMPROVED EVENT SELECTION

S.K.N. Portillo and D.P. Finkbeiner, *The Astrophysical Journal* **796** 54 (2014).

NANOMECHANICAL TORSIONAL RESONATOR TORQUE MAGNETOMETRY

J.P. Davis, D. Vick, P. Li, S.K.N. Portillo, A.E. Fraser, J.A.J. Burgess, D.C. Fortin, W.K. Hiebert, M.R. Freeman, *Journal of Applied Physics* **109** 07D309 (2011).

LANGUAGES

English (native), Français (intermediate, DELF B1), Español (beginner)

COMPUTING SKILLS

Python, C++, Java, IDL, Perl, ROOT

MapReduce, MPI, CUDA, SQL

TEACHING EXPERIENCE

TEACHING ASSISTANT, ASTRON 130: COSMOLOGY (HARVARD U.)

Winter 2014, Winter 2016

TEACHING ASSISTANT, SPU 19: THE ENERGETIC UNIVERSE (HARVARD U.)

Winter 2015

TEACHING ASSISTANT, SPU 21: STELLAR UNDERSTANDING OF THE COSMOS (HARVARD U.)

Fall 2013

TEACHING ASSISTANT (COMPUTING SCIENCE), SCI 100: INTEGRATED SCIENCE (U. ALBERTA)

2009/2010, 2010/2011, 2011/2012

VOLUNTEER EXPERIENCE

SCIENCE IN THE NEWS BOSTON

Webmaster (2012 to date)

Spring Lecture Series Co-Coordinator (2016)

Lecturer (2013, 2014)

Outreach Committee (2012-2013)

UNIVERSITY OF ALBERTA INTERDEPARTMENTAL SCIENCE STUDENTS' SOCIETY

Director of Finance, Co-Director of Locker Rentals (2011/2012)

Year III Councillor (2010/2011)

EDMONTON REGIONAL SCIENCE FAIR COUNCIL

Judging Committee, Webmaster, Secretary (2009-2012)

Canada-Wide Science Fair Ambassador (2012)

TELUS WORLD OF SCIENCE EDMONTON

Assistant Observatory Attendant (2006-2012)

Assistant Camp Leader (2006, 2008)

SELECTED HONOURS

Sir James Lougheed Award of Distinction – Doctoral, 2017

NSERC Postgraduate Scholarship – Doctoral, 2015

Certificates of Distinction in Teaching, 2013, 2016

NSERC Postgraduate Scholarship – Master's, 2012 (*converted from an Alexander Graham Bell Canada Graduate Scholarship – Master's*)

Dean's Silver Medal in Science, 2012

Students' Union Centenary Award for Academic Excellence, 2012

Undergraduate Student Teaching Award, 2011

NSERC Undergraduate Student Research Awards, 2009, 2010, 2011

Institute of Particle Physics CERN Summer Student, 2011

Louise McKinney Post-Secondary Scholarships, 2009, 2011, 2012