

Robert L. McCarthy

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(a) Professional Preparation:

Harvard College, Cambridge, MA B.A. summa cum laude in Physics June 1965
University of California, Berkeley, CA Ph. D. in Physics December 1971
University of Chicago, Chicago, IL Enrico Fermi Fellow (particle physics) 12/71-6/72

(b) Appointments:

Professor of Physics, Stony Brook University, 1986 – present
Associate Professor of Physics, Stony Brook University, 1978 – 1986
Assistant Professor of Physics, Stony Brook University, 1972 – 1978
Enrico Fermi Fellow, University of Chicago 12/71-6/72
Henry Russell Shaw Traveling Fellow In Physics, Harvard University 9/65-6/66
Visiting Scientist, CERN, 11/65 - 3/66

(c) Products: five publications related to this proposal

1. "Search for high-mass diboson resonances with boson-tagged jets in proton-proton collisions at $\sqrt{s} = 8$ TeV with the ATLAS detector", G. Aad *et al.* (ATLAS Collaboration), submitted to JHEP, arXiv:1506.00962[hep-ex].
2. "Observation of a new particle in the search for the Standard Model Higgs boson with the ATLAS detector at the LHC", G. Aad *et al.* (ATLAS Collaboration), Phys. Lett. **B716** (2012) 1, arXiv:1207.7214.
3. "Electron performance measurements with the ATLAS detector using 2010 LHC proton-proton collision data", G. Aad *et al.* (ATLAS Collaboration), Eur. Phys. J. **C72** (2011) 1909, arXiv:1110.3174.
4. "The High Voltage Feedthroughs for the ATLAS Liquid Argon Calorimeters", B. Botchev, G. Finocchiaro, J. Hoffman, R. L. McCarthy, M. Rijssenbeek, J. Steffens, A. Talalaevskii, M. Thioye, M. Zdrzil, J. Farrell, S. Kane, JINST **2**: T10002 (2007), arXiv:0709.0744.
5. "Search for Supersymmetry in Events with Three Leptons and Missing Transverse Momentum in $\sqrt{s} = 7$ TeV *pp* Collisions with the ATLAS Detector", G. Aad *et al.* (ATLAS Collaboration) Phys. Rev. Lett. **108** (2012) 261804, arXiv:1204.5638.

Products: five additional significant publications:

1. " Z^3 Corrections to Energy Loss and Range", J.D. Jackson and R.L. McCarthy, Phys. Rev. **B6**, 4131 (1972).
2. "Correlations Between Two Hadrons at Large Transverse Momenta", R.J. Fisk, R.J. Engelmann, M.L. Good, A.S. Ito, H. Jostlein, D.M. Kaplan, R.D. Kephart, R.L. McCarthy, H. Wahl, S.W. Herb, D.C. Hom, L.M. Lederman, J.C. Sens, H.D.

- Snyder, J.K. Yoh, J.A. Appel, B.C. Brown, C.N. Brown, W.R. Innes, and K. Ueno, Phys. Rev. Lett. 40, 984 (1978).
3. "Identification of Large-Transverse Momentum Hadrons using a Ring-Imaging Cherenkov Counter", R.L. McCarthy, M. Adams, C. Brown, G. Coutrakon, G. Charpak, D. Finley, H. Glass, J.R. Hubbard, D. Jaffe, A. Jonckheere, H. Jostlein, J. Kirz, Ph. Mangeot, A. Peisert, J.C. Santiard, and F. Sauli, Nucl. Instr. and Methods A248 (1986) 69.
 4. "The Dijet Mass Spectrum and a Search for Quark Compositeness in $p\bar{p}$ Collisions at $\sqrt{s} = 1.8$ TeV", B. Abbott *et al.* (DØ Collaboration), Phys. Rev. Letters 82, 2457 (1999), hep-ex/9807014.
 5. "Inclusive Jet Production in $p\bar{p}$ Collisions", B. Abbott *et al.* (DØ Collaboration), Phys. Rev. Lett. 86, 1707 (2001), hep-ex/0011036.

(d) Synergistic Activities:

First to calculate the charge asymmetry in dE/dx (with J. D. Jackson).

Designed and constructed first wide-aperture ring-imaging Cherenkov counter to publish physics results.

Responsible for assembling and commissioning the DØ central calorimeter.

Chaired the accreditation review of the Stony Brook campus 1999.

Adviser to the Master of Arts in Teaching Physics program at Stony Brook

(Hence I am usually the first contact teachers use for the physics department.)

(e) Collaborators:

DØ Collaboration: <http://www-d0.fnal.gov/author/authorlist.html> 363 authors

ATLAS Collaboration:

<http://graybook.cern.ch/programmes/experiments/lhc/ATLAS.html> 2829 authors

Advisers:

Graduate: Donald H. Miller, Northwestern University (now retired)

Postdoctoral: Luke W. Mo, Virginia Tech (now retired)

Thesis advisees:

George Coutrakon (Northern Illinois University), Henry Glass (Fermilab), David Jaffe (Brookhaven), Jaehoon Yu (U. Texas, Arlington), Ram Calaga (Brookhaven), Jun Guo (Shanghai Jiao Tong University), Jeremiah Jet Goodson (computing industry), Angel Campoverde Quezada (current) Total advised: 15

Postdoctoral advisees:

Dmitri Tsybychev (Stony Brook University), Adam Yurkewicz (Northern Illinois University), Ashfaq Ahmad (National Center for Physics, Pakistan), Paolo Mastrandrea (LAPP, Annecy) Total advised: 22