

Michael P. McCarthy
Research Associate Professor
Department of Earth and Space Sciences
University of Washington

Professional Preparation

Western Washington University, Mathematics and Physics, B.A and B.S. 1977
University of Washington, Physics, Ph.D. 1988

Appointments

Research Associate Professor, University of Washington, 1995-present
Research Assistant Professor, University of Washington, 1991-1995
Visiting Scientist, Space Sciences Laboratory, U. C. Berkeley, 1989-1993
Research Associate, University of Washington, 1989-1991
Post-Doctoral, University of Washington, 1988-1989

Products

no prior work in glaciology or borehole instrumentation

M. P. McCarthy and G. K. Parks, On the modulation of X-ray fluxes in thunderstorms. *J. Geophys. Res.*, 97, 1992, 5857–64.

M. P. McCarthy and J. P. McFadden, Measurement of 0–25 eV Ions with a Retarding Potential Analyzer on the Cluster Ion Spectroscopy Experiment, in *Measurement Techniques in Space Plasmas: Particles*, R. F. Pfaff, J. E. Borovsky, D. T. Young, editors; Geophysical Monograph 102, AGU Publications, 1998.

M. P. McCarthy, G. Hernandez, A. Mactutis, J. A. Moore, Validation of an 8–14 um cloud monitor using visual observations of Antarctic cloud cover. *App. Optics*, 46, 2007, 2091–2098.

L. Steinhauer, M. P. McCarthy, E. Whipple, Multi-Fluid Model of a One-Dimensional Steady State Magnetotail Current Sheet. *J. Geophys. Res.*, 113, A04207, doi: 10.1029/2007JA012578, 2008.

G. K. Parks, E. Lee, M. McCarthy, M. Goldstein, S. Y. Fu, J. B. Cao, P. Canu, N. Lin, M. Wilber, I. Dandouras, H. Réme, and A. Fazakerley, Entropy Generation across Earth's Collisionless Bow Shock. *Phys. Rev. Lett.*, 108, doi:10.1103/PhysRevLett.108.061102, 2012.

Synergistic Activities

1. provide undergraduate research experiences; recent examples include: characterizing energy response of a sodium-iodide scintillator from 20–10000 keV over a temperature range –30 C to +40 C; developing software to extract local cloud cover at McMurdo station from infrared thermopile measurements, and developing a technique to measure surface reflectivity of an optical flat.
2. provide experiential learning activities for non-science (and science) majors. We teach a class in which students learn about earth's upper atmosphere and space environment, and how research is conducted at these remote regions. A strong hands-on component requires that students design, build, and calibrate a science instrument to measure something in the stratosphere. My role is to deliver several lectures, provide design and testing support for student projects, and provide the telemetry system.
3. review proposals for NASA and NSF
4. referee manuscripts for scientific journals

Collaborators and Other Affiliations

Collaborators

BA Anderson/Dartmouth	EA Bering/UH
GS Bowers/UCSC	B Burkholder/UW
P Canu/École Polytechnique	JB Cao/Beihang Univ.
KS Cho/ASSI (Korea)	MA Clilverd/Brit. Ant. Survey
AB Collier/Univ. Kwazulu-Natal	MD Comess/Space X
I Dandouras/CESR	A Fazakerley/Univ. College London
SY Fu/Peking University	M Goldstein/GSFC
AJ Halford/Dartmouth	G Hernandez/UW
JG Hewitt/USAF Academy	RH Holzworth/UW
MK Hudson/Dartmouth	J Hwang/ASSI (Korea)
AR Jacobson/UW	KH Kim/Kyung Hee Univ.
NR Knezek/Dartmouth	M Kokorowski/JPL
ES Lee/Kyung Hee Univ.	JJ Lee/ASSI (Korea)
AX Liang/UCSC	N Lin/UCB
RP Lin/UCB	DG McGaw/Dartmouth
RM Millan/Dartmouth	KW Min/KAIST (Korea)
YD Park/ASSI (Korea)	GK Parks/UCB
RF Pfaff/GSFC	H Réme/CESR
WZ Rexroad/UCSC	DE Rowland/GSFC
JG Sample/UCB	JM Scheiman/Dartmouth
A Seppälä/Finnish Met. Inst.	DM Smith/UCSC
JN Thomas/DigiPen	LD Thompson/CSBF
BT Tsurutani/JPL	E Turunen/Sodankylä Geophys. Obs.
M Wilber/UCB	WL Willcockson/?
LA Woodger/Dartmouth	KB Yando/UCB

Graduate and Post-Doctoral Advisors

Prof. George K. Parks/Emeritus Prof. Robert P. Lin/Berkeley

Thesis Advisor and Postgraduate-Scholar Program

K. Lorentzen–deceased	J. D. Williams–?
D. Chua–NRL	M. Fillingim–Berkeley
M. Kokorowski–JPL	A. Baker (M.S.)–?
L. Zheng–UW	
Dr. W. Peria	Dr. J. D. Williams

7 Graduate Students Advised
2 Postgraduates Advised