Krista L. Martocci

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Education

University of Chicago, Chicago, IL — 2008-Present
Ph.D. Candidate, Department of Astronomy & Astrophysics

City University of New York, New York, NY — 2004-2008
B. A. in Physics & Mathematics, Magna Cum Laude
CUNY Baccalaureate Program Participant

University of Florida, Gainesville, FL — 1996-2000
B.F.A. in Theatre Productions, with Honors

Research Experience

University of Chicago, Chicago, IL — 2008-Present
Ph.D. Thesis Advisor: Dr. Fausto Cattaneo

Princeton University, Princeton, NJ — 2006-2008
Advisor: Dr. Suzanne Staggs
Leadership Alliance, Princeton Summer Undergraduate Research Experience, Summer 2006

Hunter College, New York, NY — 2005-2007
Advisors: Dr. Steve Greenbaum & Dr. Faisal Alamgir

Research Interests

My current research is understanding turbulence and magnetic field generation in astrophysical systems.

Past research projects include the assembly of the Millimeter Bolometer Array Camera for the Atacama Cosmological Telescope (Princeton) and the study of the chemical composition of battery material during discharge (Hunter).

Publications

Martocci, K.L., Cattaneo, F., Obabko, A., & Fischer, P.F. "Dynamo Action in 3D Global Simulations of Cylindrical Magnetized Couette Flow" *expected submission: February 2013 to MNRAS*

Sievers, J. L. et al. "The Atacama Cosmology Telescope Cosmological Parameters from Three Seasons of Data", arXiv:1301.0824 (in submission)

Dünner, R. et al. "The Atacama Cosmology Telescope Data Characterization and Mapmaking", *The Astrophysical Journal* **762**:10 (2013)

Marriage, T.A., et al. "The Atacama Cosmology Telescope: Sunyaev-Zeldovich-Selected Galaxy Clusters at 148 GHz in the 2008 Survey", *The Astrophysical Journal*, **737**:61 (2011)

Swetz, DS, et al., "Overview of the Atacama Cosmology Telescope: Receiver, Instrumentation, and Telescope Systems", *The Astrophysical Journal*, **194**:41 (2011)

Sehgal, N., et al., "The Atacama Cosmology Telescope:Cosmology from Galaxy Clusters Detected Via the Sunyaev-Zel'dovich Effect", *The Astrophysical Journal*, **732**:44 (2011)

Marriage, T.A., et al., "The Atacama Cosmology Telescope: Extragalactic Sources at 148 GHz in the 2008 Survey", *The Astrophysical Journal*, **731**:100 (2011)

Das, S., et al., "The Atacama Cosmology Telescope: A Measurement of the Cosmic Microwave Background Power Spectrum at 148 and 218 GHz from the 2008 Southern Survey", *The Astrophysical Journal*, **729**:62 (2011)

Hincks, A. D., et al., "The Atacama Cosmology Telescope (ACT): Beam Profiles and First SZ Cluster Maps", *The Astrophysical Journal*, **191**:423 (2010)

Fowler, J.W., et al., "The Atacama Cosmology Telescope: A Measurement of the 600<l<8000 Cosmic Microwave Background Power Spectrum at 148 GHz", *The Astrophysical Journal*, **722**:1148 (2010)

Thornton, R.J., et al., "Opto-Mechanical Design and Performance of a Compact Three-Frequency Camera for the Millimeter Bolometer Array Camera on the Atacama Cosmology Telescope", *Proc. SPIE*, **7020**:70201R (2008)

Hincks, A.D., et al., "The Effects of the Mechanical Performance and Alignment of the Atacama Cosmology Telescope on the Sensitivity of Microwave Observations", *Proc. SPIE*, **7020**:70201P (2008)

Zhao, Y., et al., "Characterization of Transition Edge Sensors for the Millimeter Bolometer Array Camera on the Atacama Cosmology Telescope" *Proc. SPIE*, **7020**:70200O (2008)

Swetz, D.S., et al., "Instrument Design and Characterization of the Millimeter Bolometer Array Camera on the Atacama Cosmology Telescope", *Proc. SPIE*, **7020**:702008 (2008)

Switzer, E.R., et al., "Systems and Control Software for the Atacama Cosmology Telescope", *Proc. SPIE*, **7019**:70192L (2008)

Leifer N.D., Colon, A., Martocci, K., Greenbaum, S.G., Alamgir, F.M., Reddy, T.B., Gleason, N.R., Leising, R.A., & Takeuchi, E.S., "Nuclear Magnetic Resonance and X-Ray Absorption Spectroscopic Studies of Lithium Insertion in Silver Vanadium Oxide Cathodes", *J. Electrochem. Soc.*, **154**:A500 (2007)

PRESENTATIONS

Universita di Torino, Torino, Italy — Mar 12, 2013
"Turbulence and Dynamos in Astrophysical Disks"

APS Division of Plasma Physics, 54th Meeting, Providence, RI — Nov 2, 2012
"Turbulence and Dynamos in Astrophysical Disks"

International School of Space Science, L'Aquila, Italy — Sept 4, 2012
"Turbulence and Dynamos in Cylindrical Disks"

Leadership Alliance Symposium, Chantilly, VA — July 29, 2006
"The Characterization of Multiplexer Chips for the Atacama Cosmological Telescope"

Journal of the Electrochemical Society, 209th Meeting, Denver, CO — May 10, 2006
"Mechanism of CO Adsorption on Pt-Ru Fuel Cell Anode Catalysts"

Teaching Experience

University of Chicago, Chicago, IL — Sept 2008-Dec 2011

Hunter College (City University of New York), New York, NY — Jan 2007 - June 2008

Outreach

New Frontiers in Astronomy & Cosmology, Chicago, IL
High School Essay Competition Screener — June 2012

Adler Planetarium, Chicago, IL
Astronomy Conversations Presenter — Spring 2011

Physical Science Learning Center, Hunter College, NY — Sept 2006 - Dec 2006
Physics Tutor

Services

Physical Science Division's Dean of Students Committee, University of Chicago — 2011-Present

TAAC Moving Committee, University of Chicago — 2011-2012

WOPAT President, University of Chicago — 2009-2011

Curriculum Committee, University of Chicago — 2009-2010

Awards

Thomas W. Smith Academic Scholarship, City University of NewYork — 2006-2007

Avon Tukman Award, Hunter College — 2006

Einhorn Academic Scholarship, Hunter College — 2005-2007

Florida Academic Scholars Award, University of Florida — 1996-2000

References

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