

Malachi Tatum

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Employment

- **NASA Postdoctoral Program- GSFC** **November 2013-Present**

Education

- **University of Maryland Baltimore County, Ph.D., Applied Physics** **December 2013**
 - Dissertation Title: Examining the Role of the Compton-thick, X-ray Reprocessor in Type 1 Active Galactic Nuclei
 - Adviser: T.J. Turner, Ph.D.
- **University of Maryland Baltimore County, M.S., Applied Physics** **August 2010**
- **Morgan State University, B.S., Physics** **May 2008**

Experience

- **Research with Dr. T.J. Turner (January 2010- November 2013)**
 - Examining the prevalence of the excess hard X-ray flux in the local type 1 AGN population
 - Determining the consistency of a Compton-thick disk wind model with the Fe K alpha emission line profile
 - Reducing the XMM-Newton data for Ark 564 to be used in Fourier timing analysis
- **Research with Dr. Markos Georganopoulos (June 2009- December 2009)**
 - Updating code that models Relativistic Jets from Blazars to include electron-positron pair production

Skills

- **Research Experience:** Individual and team research, interpreting and modeling data.
- **Data Analysis Packages**
 - Familiar with SAS, CIAO, and FTOOLS
- **Computer Languages:**
 - Familiar with C, C++, Mathematica, MATLAB, Python, and R.

Professional Activities

- NuSTAR Science Team- Starburst Galaxies Working Group (February 2014- Present)
- American Astronomical Society- Junior Member (2009-2011)
- American Physical Society- Student Member (2006-2010)

Honors and Awards

- NASA Graduate Student Research Program (August 2010- August 2013)
- Graduate Assistant in Areas of National Need Fellowship (August 2009- August 2010)
- Master Graduate Teaching Assistant of the Pilot Graduate Teaching Assistant Course at UMBC (January 2009- April 2009).

- Meyerhoff Graduate Fellowship (August 2008- August 2009).

Publications

- Tatum, M. M., Turner, T. J., Miller, L., & Reeves, J. N. The Global Implications of the Hard X-ray Excess in Type 1 AGN. *The Astrophysical Journal*, 762, 80, 2013.
- Tatum, M. M., Turner, T. J., Sim, S. A., Miller, L., Reeves, J. N., Patrick, A. R., and Long, K. S. Modeling the Fe K Line Profiles in Type 1 Active Galactic Nuclei with a Compton-thick Disk Wind. *The Astrophysical Journal*, 752, 94, 2012.
- Tatum, M. M., Turner, T. J., Miller, L., & Reeves, J. N. The Global Implications of the Hard X-ray Excess in Radio-Quiet AGN, in prep
- Tatum, M. M., Turner, T. J., Miller, L., & Reeves, J. N. The Global Implications of the Hard X-ray Excess in Type 1 AGN. Half a Century of X-ray Astronomy Conference Proceeding, 2012.

Scientific Presentations

- Tatum, M. M., Turner, T. J., Miller, L., & Reeves, J. N. The Global Implications of the Hard X-ray Excess in Type 1 AGN. *Suzaku/MAXI Meeting*, Matsuyama, Japan February 2014.
- Tatum, M. M., Turner, T. J., Miller, L., & Reeves, J. N. The Global Implications of the Hard X-ray Excess in Type 1 AGN. *UMBC Graduate Research Conference*, Baltimore, Maryland February 2013.
- Tatum, M. M., Turner, T. J., Miller, L., & Reeves, J. N. The Global Implications of the Hard X-ray Excess in Type 1 AGN. *Half a Century of X-ray Astronomy*, Mykonos, Greece, September 2012.
- Tatum, Malachi. 1H 0419-577 and beyond: The Importance of the Hard X-ray Excess in AGN. *AGN Winds in Charleston*, Charleston, South Carolina, October 2011.
- Tatum, Malachi. Modeling of Accretion Disk Outflows in Active Galactic Nuclei using X-Ray Data. *UMBC Graduate Research Conference*, Baltimore, Maryland, April 2010.