Manuel Pichardo Marcano

manuelpm.me
Texas Tech University
Department of Physics and Astronomy
Lubbock, TX 79409
Email: manuelpichardom@gmail.com

Education

- *PhD., Physics*
  Texas Tech University, 2016-Present
- *Joint European Master Degree in Space Science & Technology*
  Project topic: MUSE observations of the compact objects NGC 6397
  M.S., Space and Science Technology, Luleå tekniska universitet (2014 - 2016)
  M.S., Astrophysics, Université Paul Sabatier Toulouse III, Mention Assez Bien (2014 - 2016)
- *Bachelor of Science, Physics*
  Utah State University, Cum Laude (2014)

Research Experience

- Spring 2016: *Research Project*, Research Institute in Astrophysics and Planetology (IRAP).
  Worked with Dr. Natalie Webb and Dr. Sebastien Guillot in a project studying the compact objects in the globular cluster NGC 6397 with data from the Multi Unit Spectroscopic Explorer (MUSE). `https://github.com/manuelmarcano22/MasterThesis`
- Summer 2015: *Summer Project, Institute for Gravitational Research,* University of Glasgow.
  Worked with Dr. Martin Hendry in a project developing a graphical user interface for gravitational wave data analysis. `https://github.com/manuelmarcano22/aLIGO-wxPython`
- 2013-2014: *Undergraduate Researcher, Utah State University,* Astrophysics Group.
  Worked with Dr. Shane Larson and Dr. Jeff Hazboun in a project establishing a limit in the mass of the graviton using Pulsar Timing Arrays. `http://arxiv.org/abs/1311.3153`
- Summer 2013: *Undergraduate Researcher, National Center for Atmospheric Research*
  Worked with Dr. Scott McIntosh on project using observations of the Solar Dynamics Observatory (SDO) spacecraft (especially the Helioseismic and Magnetic Imager - SDO/HMI) to study the evolution of the photospheric magnetic field in the build up to the most powerful solar flares and CMEs of the current solar cycle. `http://manuelpm.me/papers/posterhao.pdf`
- Summer 2012: *Undergraduate Researcher, Stanford University*, Geophysics Dep.
  Worked with Dr. Howard Zebker and Dr. Lin Liu on project to try to use the remote sensing technique called InSAR (Interferometric Synthetic Aperture Radar) to study the hydrodynamics of two interconnected lakes in the Dominican Republic. `http://manuelpm.me/papers/posterinsar.pdf`

Publications & Preprints

Papers

- S.W. McIntosh, W.J. Cramer, **M. Pichardo Marcano**, R.J. Leamon, The detection of Rossby-like waves on the Sun, Nature Astron. 1, 0086 (2017). `doi:10.1038/s41550-017-0086`

- *Limiting alternative theories of gravity using gravitational wave observations*
  Jeffrey S. Hazboun, **Manuel Pichardo Marcano** and Shane L. Larson; preprint `arxiv/1311.3153`

Talks and Posters

- *"MUSE integral field unit observations of the compact objects in the globular cluster NGC 6397"*
  Poster. Stellar Remnants at the Junction. Junction, TX. 2016
- *"Estudio de la población de objetos compactos en el cúmulo globular NGC 6397 con la unidad de campo integral MUSE"*
  Talk to the Dominican Society of Amateur Astronomers. Santo Domingo, Dominican Republic. 2016
- *"Big Flare Hunting"*
  Poster. Summer Program in Solar and Space Physics. Boulder, CO. 2013
- *"Measuring Water Level Fluctuations of Two Connected Wetlands in the Dominican Republic Using InSAR"*
  Poster. SHPE National Conference. Dallas, TX. 2012
- *"Measuring Water Level Fluctuations of Two Connected Wetlands in the Dominican Republic Using InSAR"* Talk. USU Physics Department Colloquium. 2012

Teaching Experience

- *Teaching Assistant.* PHYS 1403/1404: Algebra-based, Inquiry-based, Laboratory-based Introductory Physics Curriculum. TTU, 2017-Present.
- *Teaching Assistant.* PHYS 1401/2401: Principles of Physics I/II. Lead the laboratories and discussions for the calculus based introductory physics. TTU, 2016-2017.
- *Undergraduate Teaching Fellow.* PHYS 2215: Physics for Scientists and Engineers Lab I - Utah State, Fall 2013.

Recognitions & Leadership Experiences

- Erasmus Mundus Scholarship: 2-year scholarship awarded by the European Commission
- Presidential Scholarship: Full 4-year scholarship awarded by the Dominican Government
- Member: *Sigma Pi Sigma*, The Physics Honor Society
- Vice-President: *Society of Hispanic Professional Engineers.* 2011-2012
- Outreach Coordinator: *Society of Hispanic Professional Engineers.* 2012-2013
- Lawrence R. and Abeline Megill Scholarship: *USU Physics Department*

Technical Skills

- GitHub projects and contributions: https://github.com/manuelmarcano22.
- *Programming Languages*: Proficient in Python (Jupyter/iPython notebooks) and shell scripting (bash).
- *Markup Languages*: LaTeX, Markdown
- *Operating Systems*: GNU/Linux, OS X, Windows
- *Software*: IRAF/PyRAF, Mathematica
- *Version Control Systems*: Git
- *Virtualization and Cloud Services*: Docker (learning)
- *Networking Tools/Services*: SSH (basic)

Languages

- *Spanish*: Native Language
- *English*: Fluent
- *French*: Intermediate knowledge

Outreach

- *Author at Astrobitos*: Spanish sister site of Astrobites. Our goal is to present interesting research papers in astronomy in a brief format that is accessible to undergraduate students in the physical science. URL: `https://astrobitos.org/author/manuelmarcano22/`

References

Dr. Thomas Maccarone
Associate Professor
Texas Tech University
Department of Physics and Astronomy
Lubbock TX 79409-1051
PHONE: 1-806-742-3760 eMAIL: thomas.maccarone@ttu.edu

Dr. Natalie Webb
Researcher
Institut de Recherche en Astrophysique et Planétologie
9 Avenue de Colonel Roche
31028 Toulouse Cedex 4, France
PHONE: (+33) 5 61 55 75 70 eMAIL: Natalie.Webb@irap.omp.eu

Dr. Martin Hendry
Head of School
Professor of Gravitational Astrophysics and Cosmology
SUPA, School of Physics and Astronomy
University of Glasgow
Glasgow, G12 9RW
PHONE: (+44) 141 330 5685 eMAIL: Martin.Hendry@glasgow.ac.uk

Dr. Shane Larson
Research Associate Professor
Center for Interdisciplinary Exploration
and Research in Astrophysics
Northwestern University
Evanston, IL 60208
PHONE: (847) 467 4305 eMAIL: s.larson@northwestern.edu

Dr. Scott W. McIntosh
National Center for Atmospheric Research
High Altitude Observatory
3080 Center Green Drive - CG1
Boulder, CO 80301
PHONE: (303) 497 1544 eMAIL: mscott@ucar.edu

Dr. David Peak
Professor of Physics
Department of Physics
4415 Old Main Hill
Utah State University
Logan, UT 84322-4415
PHONE: (435) 797-2884 eMAIL: david.peak@usu.edu.