

Adriano Pieres

Nationality: Brazilian

Address: Rua Gal. Argolo, 41/2, Rio de Janeiro, RJ, 20921-392, Brazil

Email: adriano.pieres@linea.gov.br

Web: adrianopieres.org

Office: +55 (21) 3308-9200

Mobile: +55 (51) 99164-8520

RESEARCH INTEREST & EXPERIENCE

My main interest and experience orbits stellar populations, mainly working with large photometric surveys to probe the halo and regions around the Milky Way, in order to understand or provide clues about the formation of the Galaxy and Magellanic Clouds. I have a lot of experience in determining structural and physical parameters of star clusters, searching and detecting star overdensities and comparing them to models. I was involved in the discovery of many objects around the southern hemisphere of the Milky-Way, more specifically in the footprint of the Dark Energy Survey. I acquired a lot of knowledge working with the DES groups considering statistical techniques and estimations. More recently at LIneA I learn to improve the scientific codes when dealing with large amounts of data, in a way to speed up and concatenate codes more rationally, using computer clusters.

EMPLOYMENT

- **Laboratório Interinstitucional de e-Astronomia/RNP:** Nov 2017-present Postdoctoral Research Fellow,
- **Universidade Federal do Rio Grande do Sul:** Jan 2014-Oct 2017 Scholarship held at Astronomy Department (PhD)
- **Universidade Federal do Rio Grande do Sul:** Mar 2012-Dec 2013 Scholarship held at Astronomy Department (Master)

EDUCATION

- **Universidade Federal do Rio Grande do Sul:** Brazil PhD Science/Astrophysics, January 2014 - September 2017
- **Universidade Federal do Rio Grande do Sul:** Brazil Master degree on Physics/Astrophysics, March 2012 - December 2013
- **Universidade Federal do Rio Grande do Sul:** Brazil Undergraduate degree in Physics, 1999 - 2005

AWARDS/GRANTS

- **Conselho Nacional de Pesquisa/CNPq:** Scholarship for PhD Candidate Brazil, 2014-2017
- **ESO:** ESO-NEON: PhD visiting and training to work on La Silla telescopes ESO, Feb-Mar 2016
- **Newton Confap/UK:** PhD visiting Royal Observatory/Edinburgh UK, Jan 2016
- **Conselho Nacional de Pesquisa/CNPq:** Scholarship for Master Candidate Brazil, 2012-2013
- **UFRGS SEAD:** Honor Mention - For authorship and production of educational material to courses following the modality of distance learning in the University 2012

TEACHING AND SUPERVISION

- **Sthiven Rapahel Correia Melo:** 2019-2020 Undergraduate research, Observatorio Nacional, RJ
- **Volunteer professor for undergraduate students:** Mar-Jun 2018 Stellar evolution/UFRGS, RS

PROFESSIONAL ACTIVITIES

- **Member of the Milky-Way working Group/Dark Energy Survey**
Involved in many scientific projects (LMC clusters, Fornax dwarf galaxy, MW companions, description of MW thick disk and
- **Galactic Archaeology Group/LIneA** 2018-present
Coordinating meetings of the group

PUBLICATIONS

- **Modelling the Milky Way. I - Method and first results fitting the thick disk and halo with DES-Y3 data**, : [A. Pieres](#), L. Girardi, E. Balbinot, B. Santiago, et al., MNRAS (2020).
- **Rediscovery of the Sixth Star Cluster in the Fornax Dwarf Spheroidal Galaxy**, : M. Wang, S. Koposov, A. Drlica-Wagner, [A. Pieres](#), et al., Astrophysical Journal (2019).
- **The morphology and structure of stellar populations in the Fornax dwarf spheroidal galaxy from Dark Energy Survey Data**: M. Wang, T. de Boer, [A. Pieres](#), T. Li, et. al., Astrophysical Journal (2019).
- **Stellar Populations of the Outer Milky-Way Halo**: B. Santiago, E. Luque, [A. Pieres](#), A. B. Queiroz, Proceedings of the International Astronomical Union (2018).
- **Deep SOAR follow-up photometry of two Milky Way outer-halo companions discovered with Dark Energy Survey**: E. Luque, B. Santiago, [A. Pieres](#), J. Marshall, et al., MNRAS (2018).
- **A stellar over-density associated with the Small Magellanic Cloud**: [A. Pieres](#), B. Santiago, A. Drlica-Wagner, K. Bechtol, et al., MNRAS (2017).
- **The Dark Energy Survey view of the Sagittarius stream: Discovery of two faint stellar system candidates**: E. Luque, [A. Pieres](#), B. Santiago, B. Yanny, et al., MNRAS (2017).
- **Digging deeper into the Southern skies: a compact Milky Way companion discovered in first-year Dark Energy Survey data**: E. Luque, A. B. Queiroz, B. Santiago, [A. Pieres](#), et al., MNRAS (2016).
- **Physical properties of star clusters in the outer LMC as observed by the DES**, : [A. Pieres](#), B. Santiago, E. Balbinot, E. Luque, et al., MNRAS (2016).
- **Eight New Milky Way Companions Discovered in First-year Dark Energy Survey Data**: K. Bechtol, A. Drlica-Wagner, E. Balbinot, [A. Pieres](#), et al., ApJ, (2015).
- **The LMC geometry and outer stellar populations from early DES data**: E. Balbinot, B. Santiago, L. Girardi, [A. Pieres](#), et al. MNRAS (2015).
- **New SX Phe variables in the globular cluster NGC 288**: E. Martinazzi, S. O. Kepler, J. E. S. Costa, [A. Pieres](#), et al., MNRAS (2015).
- **Probing mass segregation in the globular cluster NGC 6397**: E. Martinazzi, [A. Pieres](#) S. O. Kepler, J. E. S. Costa, et al., MNRAS (2014).

PUBLIC OUTREACH

I worked during the years 2005-2009 in an initiative for EPO for Science, managing a laboratory where we built many devices intended to demonstrate the advances in current technology. The project is not working, but I learned much in presenting complex things to people with very distinct background.

I also worked organizing seminars on behalf of the Physics Institute during the years 2009-2010, inviting professors for lectures and organizing the event. A few years later I presented my own lecture for the public. Check the presentation [here](#).

In the last year (2019) I presented a lecture for general public at the planetarium presenting part of the results of my work.

I have many answers in Quora about Science and Astronomy. We have an unbelievable lack of people to reply good questions. Check a few of them [here](#).

Along with my former advisory, I developed a sky planisphere, intended to help people in Brazil to easily assemble a sky map and observe the sky. Check [here](#). I developed also a [tool](#) to identify the phases of the Moon.

I am engaged on the EPO effort of LIneA, in order to prepare, organize and disseminate the knowledge of the new astronomy: the astronomy made with large surveys and huge computational resources. This effort represents a challenge to present scientific programming and astronomical knowledge to high school students.

- **Experience on observing at large telescopes:** I observed remotely using SOAR on many proposals, both on photometry and spectroscopy amounting to more than 80 hours. I have experience also using the 'Danish' telescope in La Silla.
- **Photometry/catalogs:** One of my first academic works was about photometry on Hubble images (using images from old WFPC2). Soon, I assembled scripts to run and improve the photometry on many images in parallel, which gave me important tools to deal with astronomical images and extract results very fast from them.

SELECTED TALKS

- **The observing conditions for Dark Energy Survey-Y6:** Dark Energy Survey Collaboration Meeting - Sussex, UK. 2019 Nov, 5
- **Describing the thick disk and halo of the Galaxy as seen by the Dark Energy Survey:** Reuniao da Sociedade Astronomica Brasileira. USP, SP, Brazil. 2018 Sep 9-12
- **DES-MWWG meeting, Dark Energy Survey Collaboration Meeting:** Campinas, BR. 2018 Dec, 7
- **Fitting the Milky Way structural parameters using DES data, Workshop: Near-Field Cosmology with the Dark Energy Survey's DR1 and beyond:** Chicago, USA. 2018 Jun, 27-29
- **Fitting Milky Way structural parameters using stellar population synthesis: MWFitting pipeline, Lecture on Observatório do Valongo.** : Rio de Janeiro, Brazil. 2018 Sep, 25
- **SMCNOD - A stellar over-density associated to the Small Magellanic Cloud, Third Winter School of the Valongo Observatory.** : Rio de Janeiro, Brazil. 2017 May, 22-26
- **The Magellanic Clouds Outer Environment in Dark Energy Survey and MagLiteS:** , Latino America Regional IAU Meeting 2016. Cartagena de Indias, Colombia. 2016 Oct, 6
- **SMCNOD with MagLiteS and Y2Q1 Catalogs.** : Magellanic Satellites Survey Meeting (Telecon). 2016 Aug, 18
- **Search for Extended Structures in DESY2 Catalog.** : Dark Energy Survey Collaboration Meeting in SLAC National Accelerator Laboratory, California, USA. (Telecon). 2016 May, 6
- **Exploring LMC clusters from DES,** : Dark Energy Survey Collaboration Meeting - Ann Arbor, Michigan, USA. (Telecon). 2015 May, 12
- **LMC clusters from SVA1-SPTE,** : Dark Energy Survey Collaboration Meeting - Sussex, UK (Telecon). 2014 May, 12