

André M. Silva

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Education

PhD	Faculdade de Ciências , Doctor's Degree in Astronomy	Universidade do Porto
	• Thesis - A new paradigm for the estimation of precise stellar radial velocities	2019 – 2024
MSc	Faculdade de Ciências , Mestrado Integrado em Engenharia Física	Universidade do Porto
	• Thesis - An expansion to the CHEOPS mission official pipeline.	2014 – 2019

Experience

Instituto de Astrofísica e Ciências do Espaço , Post-doctoral researcher	CAUP
• Development of the observational software for the PoET solar telescope.	Nov 2024 – present
Faculdade Ciências da Universidade do Porto , Invited Assistant Professor	Physics department
• Invited assistant to teach a PhD-level unit on high-resolution spectroscopy	Nov 2024 – present
Faculdade de Ciências da Universidade de Lisboa , Post-doctoral researcher	FCiências.ID
• Development of software to measure day-time seeing, under the FIERCE ERC project	Aug 2024 – Nov 2024
Faculdade Ciências da Universidade do Porto , Invited assistant	Physics department
• Invited assistant for the practical classes of MSc-level unit on Bayesian data analysis.	Feb 2024 – Sept 2024

Talks

PoET workshop 2 🔗 , 2 talks: PoET observation software; Observing strategies and their role in the improvement of RV analysis	Nov 2024
TOI III 🔗 , Approaches for RV extraction – s-BART and the first steps towards a fully Bayesian model	July 2023
EPRV 5 🔗 , Towards a fully Bayesian RV extraction model	Mar 2023
Exoplanets 4 EPRV splinter , sBART application to the ESPRESSO WG1 targets	Feb 2023
ESPRESSO science team meeting , s BART a semi Bayesian implementation of template matching for precise Radial Velocities	May 2022

Seminars

Astronomy department, Uni. of Geneva , Avenues for radial velocity extraction – s-BART & PoET	Jan 2025
ESA research seminar, European Space Agency (Madrid) , Towards an improvement in the characterisation of stellar radial velocities	May 2024
Café com Física 🔗 Departamento de Física da Universidade de Coimbra , The (radial) velocity of stars - detection and characterisation of exoplanets	Mar 2024

Supervision

Looking at the Sun, finding other Earths - Identification of Solar Regions , Co-supervisor	MSc thesis Oct 22 - Nov 23
Development of a GUI interface for the exploitation of data from the s-BART pipeline , Co-supervisor	Undergraduate project Feb 2024 – July 2024
Solar-to-sky coordinate conversion for PoET operations , Co-supervisor	Undergraduate project Feb 2024 – July 2024









Exoplanet detection through a new model for the correction of instrumental effects, Co-supervisor	Undergraduate project Feb 2024 – July 2024
Development of a tool for the normalization of stellar spectra - application to ESPRESSO data, Co-supervisor of BII project with ref CIAAUP-03/2023-BII	Funded project Feb 2024 – July 2024
A new activity proxy for finding other Earths, Co-supervisor	Bachelors project Nov 2022 – Feb 2023
An analysis of the performance of CHEOPS mission pipelines - the DRP and archi, Co-supervisor	Bachelors project Feb 2020 – June 2020

First Author Publications

A novel framework for semi-Bayesian radial velocities through template matching André M. Silva et al	2022
archi: pipeline for light curve extraction of CHEOPS background stars André M. Silva et al	2020

Co-authored Publications



Revisiting the multi-planetary system of the nearby star HD 20794: Confirmation of a low-mass planet in the habitable zone of a nearby G-dwarf Nari et al; (Astronomy & Astrophysics, 10.1051/0004-6361/202451769)	2025
A sub-Earth-mass planet orbiting Barnard's star: No evidence of transits in TESS photometry Stefanov et al; (Astronomy & Astrophysics, 10.1051/0004-6361/202452450)	2025
KOBE-1: The first planetary system from the KOBE survey: Two planets likely residing in the sub-Neptune mass regime around a late K-dwarf Balsalobre-Ruza et al; (Astronomy & Astrophysics, 10.1051/0004-6361/202452631)	2025
Characterization of K2-167 b and CALM, a new stellar activity mitigation method De Beurs et al; (Monthly Notices of the Royal Astronomical Society, 10.1093/mnras/stae207)	2024
Expanding the frontiers of cool-dwarf asteroseismology with ESPRESSO: Detection of solar-like oscillations in the K5 dwarf ϵ Indi Campante et al; (Astronomy & Astrophysics, 10.1051/0004-6361/202449197)	2024
TESS and ESPRESSO discover a super-Earth and a mini-Neptune orbiting the K-dwarf TOI-238 Suárez Mascareño et al; (Astronomy & Astrophysics, 10.1051/0004-6361/202348958)	2024
Confronting compositional confusion through the characterisation of the sub-Neptune orbiting HD 77946 Palethorpe et al; (Monthly Notices of the Royal Astronomical Society, 10.1093/mnras/stae707)	2024
The compact multi-planet system GJ 9827 revisited with ESPRESSO Passegger et al; (Astronomy & Astrophysics, 10.1051/0004-6361/202348592)	2024
Implementation of a seeing measurement device for the PoET solar telescope Wehbé et al; (Proc. SPIE , 10.1117/12.3017481)	2024
PoET, the Paranal solar ESPRESSO Telescope: a spatially resolved Sun in a high resolution spectrograph Leite et al; (Proc. SPIE , 10.1117/12.3016776)	2024
ESPRESSO reveals blueshifted neutral iron emission lines on the dayside of WASP-76 b Costa Silva et al; (Astronomy & Astrophysics, 10.1051/0004-6361/202449935)	2024

A sub-Earth-mass planet orbiting Barnard's star	2024
González Hernández et al; (Astronomy & Astrophysics, 10.1051/0004-6361/202451311 )	
Two temperate Earth-mass planets orbiting the nearby star GJ1002	2023
Mascareño et al; (Astronomy & Astrophysics, 10.1051/0004-6361/202244991 )	
An unusually low-density super-Earth transiting the bright early-type M-dwarf GJ 1018 (TOI-244)	2023
Castro-González et al; (Astronomy & Astrophysics, 10.1051/0004-6361/202346550 )	
KOBESim: A Bayesian observing strategy algorithm for planet detection in radial velocity blind-search surveys	2023
Balsalobre-Ruza et al; (Astronomy & Astrophysics, 10.1051/0004-6361/202243938 )	
Automatic model-based telluric correction for the ESPRESSO data reduction software: Model description and application to radial velocity computation	2022
Allart et al; (Astronomy & Astrophysics, 10.1051/0004-6361/202243629 )	
A candidate short-period sub-Earth orbiting Proxima Centauri	2022
Faria et al; (Astronomy & Astrophysics, 10.1051/0004-6361/202142337 )	
The KOBE experiment: K-dwarfs Orbiting By habitable Exoplanets: Project goals, target selection, and stellar characterization	2022
Lillo-Box et al; (Astronomy & Astrophysics, 10.1051/0004-6361/202243898 )	
HD22496b: the first ESPRESSO standalone planet discovery	2021
Lillo-Box et al; (Astronomy & Astrophysics, 10.1051/0004-6361/202141714 )	

Posters

The Paranal solar ESPRESSO Telescope - towards a resolved view of the Sun	2024
André M. Silva et al, Leiden, Exoplanets 5	
A fully-Bayesian model for RV extraction	2024
André M. Silva et al, Leiden, Exoplanets 5	
A Bayesian template matching approach applied to HARPS : towards the improvement of the RV precision	2021
André M. Silva et al, Online, European Astronomical Society Annual meeting 2021	
A semi-Bayesian implementation of template matching for precise Radial Velocities	2021
André M. Silva et al, Online, Statistical challenges in Modern astronomy VII	
A semi-Bayesian implementation of template matching for precise Radial Velocities	2021
André M. Silva et al, Online, Encontro Ciência 21	
ARCHI: pipeline for light curve extraction of CHEOPS background stars	2020
André M. Silva et al, Online, Europlanet Science Congress 2020	
A Bayesian approach to precise Radial Velocities	2020
André M. Silva et al, Online, 30th Encontro Nacional de Astronomia e Astrofísica	

Outreach

Ignite sessions; 'Torres Vedras  Ílhavo  Armamar'	2023-2024
Outreach talks to highschool students: Espaço vai à Escola - Descoberta de outra Terra - deteção de planetas fora do sistema solar	2022-2024
2022 (3 talks); 2023 (5 online; 5 in-person); 2024 (6 online; 4 in-person)	

Organization	
LoC of exoplanets6	2025
SoC of Dias da Física 2025	2025
LoC of EPRV6	2025