



Andrea Chiavassa

Dr. in Astrophysics



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Keywords

Multidimensional radiative transfer and hydrodynamical simulations; Convection in stellar surfaces across HR diagram; Exoplanetary atmospheres; Interferometry, spectroscopy, astrometry, imagery.

Skills

Fortran

IDL

Python

Spectroscopic data reduction

Interferometric data reduction

Scientific computing

Interests

My research focuses on the theme of hydrodynamic and radiative multidimensional modelling of stellar atmospheres: from Main Sequence stage to red supergiant. It concerns the study of atmospheric dynamics, fundamental parameters, mass-loss, and stellar activity for detecting and characterising planetary atmospheres.

Education

- 2018 Habilitation à Diriger des Recherches (equivalent to the habilitation thesis) University of Nice, France
A Journey across the Hertzsprung-Russell diagram with 3D hydrodynamical simulations of cool stars
- 2008 Ph.D. in astrophysics (advisor Bertrand Plez) University of Montpellier, France
Atmospheric dynamic of red supergiant stars.
- 1999-2004 M.Sc. magna cum laude University of Turin, Italy

Employment

- 2012- Permanent associate scientist (CNRS) at Laboratoire Lagrange.
- 2010-2012 Post-doctoral research at the Institute for Astronomy and Astrophysics, Free University of Brussels, Belgium.
- 2008-2010 Post-doctoral research at Max Planck Institute for Astrophysics, Garching, Germany.

Publications

210 publications whose 124 peer-reviewed articles (20 as first author), 28562 citations, and H-index 49 (January 2025). 15 press releases plus 2 contributions to television documentaries and movies, several contributions to science dissemination books and articles. 16 invited conferences/workshops.

Awards

- 2021-2025 Agence National de la Recherche (ANR), Project "PEPPER" France
Research grant - PI, 682 keuro
- 2021-2022 Scientific Visitor at Max Planck and Excellent Cluster Origin Germany
Research grant - 25.5 keuro
- 2020-2021 Scientific Visitor at ESO Germany
Research grant - 27 keuro
- 2016-2020 Programme Nationale de Physique Stellaire (PNPS, CNRS) and University/Observatory of Nice France
Research grants - PI, 55 keuro
- 2010 Fonds de la recherche scientifique(FNRS) Belgium
Postdoc research grant, 50 keuro
- 2008 Max Planck Institute research grant Germany
Postdoc research grant, 42 keuro

Collective and Scientific Responsibilities, chronological order.

- 2024-2029 **Member** of the laboratory scientific council, Lagrange
- 2024-2029 **Elected member** of the laboratory council, Lagrange
- 2021- **Elected member** of the Conseil Scientifique et Pédagogique - Ecole Universitaire de Recherche SPECTRUM, UCA
- 2016-2021 **Elected member** of the National Science committee for CNRS - Section 17
- 2020- **Member** of the science team of SPHERE+/VLT
- 2019- **Member** of ARIEL/ESA, **Member** of science team of SPICA/CHARA
- 2018- **Member** of JMMC (Jean-Marie Mariotti Center) user support
- 2017- **Member** of the consortium LUVUOIR/NASA
- 2014- **Member** of PLATO/ESA
- 2013- **Member** of the Science Team of HIRES (ELT)
- 2011- **Member** of Gaia/ESA