

DR. GAYLOR WAFFLARD-FERNANDEZ | CV

» Status	Post-doctoral researcher in protoplanetary disk physics, specializing in numerical simulations
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» GitHub	GitHub/volodia99
» Website	https://volodia99.github.io

» » » Research experience

2021 -	Postdoctorate — Institut de Planétologie et d'Astrophysique de Grenoble (IPAG)	Grenoble, France
	» Interactions between protoplanetary disks, magnetic winds and planets (Geoffroy Lesur)	
2018 - 2021	PhD — Institut de Recherche en Astrophysique et Planétologie (IRAP)	Toulouse, France
	» Observational predictions of planetary migration in the dust content of protoplanetary disks (Clément Baruteau)	
2017 (3 months)	Master's thesis — Institut d'Astrophysique de Paris (IAP)	Paris, France
	» The life cycle of black holes in galaxies (Marta Volonteri , Alexander Y. Wagner)	
2016 (3 months)	Internship — McGill Space Institute (MSI)	Montreal, Canada
	» Comparison of two black hole spin estimators for active galactic nuclei (Daryl Haggard , Daniel Capellupo)	
2015 (1.5 months)	Internship — Institut Astrophysique Spatiale (IAS)	Orsay, France
	» Magnetic activity of the Sun, in visible and in extreme UV regions (Frédéric Baudin)	

» » » Refereed publications

[7] Gone with the wind: the outward migration of eccentric giant planets in windy disks

Wafflard-Fernandez G. & Lesur G.

submitted

<https://arxiv.org/abs/2503.01745>

[6] exoALMA VII. Benchmarking Hydrodynamics and Radiative Transfer Codes

Bae J., Flock M., Izquierdo A., Kanagawa K., Ono T., Pinte C., Price D. J., Rosotti G. P., **Wafflard-Fernandez G.**, Lesur G., Masset F., Andrews S. M., Barraza-Alfaro M., Benisty M., Cataldi G., Cuellar N., Curone P., Czekala I., Facchini S., Fasano D., Galloway-Sprietsma M., Hall C., Hammond I., Huang J., Lodato G., Stadler J., Teague R., Wilner D., Winter A., Wölfer L. & Yoshida T. C.

submitted

[5] Planet-disk-wind interaction: The magnetized fate of protoplanets

Wafflard-Fernandez G. & Lesur G.

2023, A&A, 677, A70

<https://ui.adsabs.harvard.edu/abs/2023A%26A...677A..70W/abstract>

[4] IDEFIX: A versatile performance-portable Godunov code for astrophysical flows

Lesur G., Baghdadi S., **Wafflard-Fernandez G.**, Mauxion J., Robert C. & Van den Bossche M.

2023, A&A, 677, A9

<https://ui.adsabs.harvard.edu/abs/2023A%26A...677A...9L/abstract>

[3] Observational signatures of eccentric Jupiters inside gas cavities in protoplanetary discs

Baruteau C., **Wafflard-Fernandez G.**, Le Gal R., Debras F., Carmona A., Fuente A. & Rivière-Marichalar P.

2021, MNRAS, 505, 359-376

<https://ui.adsabs.harvard.edu/abs/2021MNRAS.505..359B>

[2] Intermittent planet migration and the formation of multiple dust rings and gaps in protoplanetary disks

Wafflard-Fernandez G. & Baruteau C.

2020, MNRAS, 493, 5892-5912

<https://ui.adsabs.harvard.edu/abs/2020MNRAS.493.5892W>

»»» Conferences

September 2024	Talk — Idefix User Days 2024	Grenoble, France
June 2024	Poster — Société française d'astronomie et d'astrophysique SF2A	Marseille, France
January 2024	Talk — ExoSystèmes IV	Lyon, France
November 2023	Talk — TCAN Disk Hydro & Planet Formation	online
October 2023	Talk — Core2Disk III	Orsay, France
July 2023	Talks — Idefix User Days 2023	Grenoble, France
April 2023	Poster — Protostars & Planets PPVII	Kyoto, Japan
January 2023	Talk — ExoSystèmes III	Marseille, France
December 2022	Talk — exoALMA workshop	Boston, USA
June 2022	Poster — Société française d'astronomie et d'astrophysique SF2A	Besançon, France
April 2021	Talk — IPAG/IRAM Seminar	Grenoble, France
April 2020	Talk — Building Blocks of Planets 2020	En ligne
January 2020	Talk — ExoSystèmes I	Paris, France
July 2019	Poster — Waves, Instabilities and Turbulence in Geophysical and Astrophysical Flows (WITGAF Summer School)	Cargèse, France
June 2019	Poster — European Week of Astronomy and Space Science (EWASS)	Lyon, France
July 2018	Poster — Planets, Stars and Discs : A Golden Age for Particle and Gas Dynamics, celebrating the 70th birthday of John Papaloizou	Oxford, UK

»»» Organization

September 2024	Idefix User Days II (SLOC)	Grenoble, France
2023 -	IPAG/IRAM Seminars	Grenoble, France
July 2023	Idefix User Days (SLOC)	Grenoble, France
June 2019	PhD days at IRAP	Toulouse, France

»»» Time proposal

2021 -	Co-PI of GENCI proposals for computation hours (granted) » A10 : 475 000 hGPU (Jean Zay V100, IDRIS) » A12 : 145 000 hGPU (Jean Zay V100, IDRIS) » A14 : 210 000 hGPU (Jean Zay V100, IDRIS)
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»»» International collaborations

exoALMA 2022 -	ALMA program of high spatial and spectral resolution observations of 3 emission lines for 15 protoplanetary disks likely to reveal forming planets in the gas kinematics ; Comparison of hydrodynamic and radiative transfer codes
UNAM 2021 -	Hydrodynamic code comparison project for 3D disk-planet interaction problems

»»» Education

2017 - 2018	PSL - Innovation and Technology Institute	Paris Sciences et Lettres
	» Pre-doctoral year: introduction to entrepreneurship and start-up creation with scientific talks in emerging fields such as cognitive sciences, environment and energy	
2016 - 2017	Master 2, Astronomy and Astrophysics / Magistère 3, Fundamental physics	OBSPM / Univ. Paris-Sud
2015 - 2016	Master 1 / Magistère 2, Physique Fondamentale	Univ. Paris-Sud
2014 - 2015	Licence 3 / Magistère 1, Physique Fondamentale	Univ. Paris-Sud
2012 - 2014	Classes préparatoires	Lycée Blaise Pascal

»»» Skills

Codes	Development of python packages like nonos , lick , cblind for data analysis and visualization ; development of a module, use of l^atex ; use of RADMC3D , FARGO3D , Dusty Fargo-ADSG ; basic use of Pluto , Paraview
Programming	Python modules (development, collaboration, versioning, maintenance) ; use of C , C++
Miscellaneous	Linux , Git , L^aT_EX , online collaboration/organization tools such as Trello , Google Slides
Languages	French : native ; English : advanced