

Gonzalo Fernández-Torija Daza

Ph.D. in *Plasma Physics and Nuclear Fusion*.

Computational and theoretical profile.

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POSITIONS

Postdoctoral position

Institute for Fusion Studies (IFS). University of Texas at Austin

Research Scholar.

08/2024 – Present

Austin, Texas, USA

Hours per week: 40

- Steady equilibrium configurations.
- Influence of ITG's in alfvénic activity and zonal flow generation.

Ph.D. student and non-doctoral assistant

Universidad Carlos III de Madrid (UC3M)

Researcher and Teacher.

11/2017 – 3/2024

Leganés, C. de Madrid

Hours per week: 40

- Government Scholarship (11/2017-2/2022): FPI (Professional Researcher Training).
- Non-Doctoral Assistant contract (2/2022-4/2024).
- Teacher of undergraduate laboratory courses (5 years)
- Internship (3 weeks) in ITER Headquarters provided by the *ITER Scientist Fellowship Programme* under the supervision of Alberto Loarte (Head of the Science Division).

EDUCATION

Ph.D. in Plasma Physics and Nuclear Fusion.

Universidad Carlos III de Madrid (UC3M).

Leganés (Madrid), Spain

- Thesis topic: *FLIPEC: A free-boundary equilibrium solver in the context of Ideal MHD for toroidally axisymmetric plasmas in the presence of flows.*
- Advisor: Dr. Raúl Sanchez. Coadvisor: J.M. Reynolds-Barredo.
- Primary task: Developing a code from the scratch.

Msc. in Astrophysics. Theory and Computation branch (90 ECTS).

Universidad de La Laguna (ULL) & Instituto Astrofísico de Canarias (IAC).

Canary Islands, Spain

- Master Thesis topic: *Galactic rotation curves and matter distribution*

Bachelor in Mathematics. Astronomy and Geodesy branch (327 ECTS).

Universidad Complutense de Madrid (UCM).

Madrid, Spain

- Erasmus scholarship (9 months) at *University of Birmingham, UK.*

PUBLICATIONS

G. F-Torija Daza, J.M. Reynolds-Barredo, R. Sanchez, A. Loarte, V. Tribaldos. *FLIPEC, an Ideal MHD free-boundary axisymmetric equilibrium solver in the presence of macroscopic flows*. Nuclear Fusion, 64(8):086012, Jun, 2024.

G. F-Torija Daza, J.M. Reynolds-Barredo, R. Sanchez, A. Loarte, and G. Huijsmans. *Free-plasma boundary solver for axisymmetric ideal mhd equilibria with flow*. Nuclear Fusion, 62(12):126044, Oct, 2022.

G. F-Torija Daza, M. López-Corredoira *Relationship between rotation curves and matter distribution in spiral galaxy discs*. Msc Thesis, <https://arxiv.org/abs/2003.04951>.

SOFTWARE SKILLS

Programming Languages

- ★★★ Fortran (modern), Python, Matlab.
- ★★ MPI with Fortran.
- ★ C++ and others.

MEETINGS

Conferences.

- EPS (Conference on Plasma Physics): 2022 (Maastricht, online), 2023 (Bordeaux, France).
- APS (Division of Plasma Physics): 2023 (Denver, Colorado, USA).

Predoctoral meetings and Summer Schools.

- 11th ITER International School (2022, San Diego, US). Plasma Scenarios and Control.
- XXXI Canary Islands Winter School of Astrophysics (2019, La Laguna, Spain). Computational Fluid Dynamics in Astrophysics.
- FuseNet PhD Event: 2018 (ITER Headquarters, Cadarache, France), 2022 (University of Padova & Consorzio RFX, Padova, Italy), 2023 (EPFL, Lausanne, Switzerland).
- Other: IAUS321 (2016, Toledo). Formation and Evolution of Galaxy Outskirts.

REFERENCES

Name	Employer	Title	Phone	Email
Raúl Sánchez	Universidad Carlos III de Madrid	Dr.	(+34) 916246001	rsanchez@fis.uc3m.es
J.M. Reynolds-Barredo	Universidad Carlos III de Madrid	Dr.	(+34) 916249478	jreynold@fis.uc3m.es
Alberto Loarte	ITER organization	Dr.	(+33) 622277117	Alberto.Loarte@iter.org

ADDITIONAL INFORMATION

Citizenship: Spain. J-1 visa.

CAE (Cambridge Advance English). Equivalent to the grade C1 at CEFRL.

European Driving license.

Volunteer Coach in the Texas Wushu team at Austin. 2nd Dan in Wu-Shu (kung-fu) granted by RFJDA.

Private Teacher of mathematics and physics.