

Fabian Alexander Polnitzky

BSc BSc MSc

Fabian Polnitzky

Institute for theoretical particle physics
and cosmology,
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Scientific Summary

I am working on **Bayesian inference** and **machine learning** methods and their applications in Astrophysics. Currently, I work on the **distribution of gas and dust** and their correlation in the **Milky Way** as part of the [mw-atlas](#) project, where I am using methods of **Information Field Theory** to reconstruct the spatial structure of our home galaxy. Furthermore, I work on the timescales of **protoplanetary disc evolution and dispersion**. From the observational side, I have experience with **all-sky observations** from optical, infrared to radio surveys.

Education

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|-------------------|---|
| 10.2025 - | PhD , RWTH Aachen University
Supervised by <i>Philipp Mertsch</i> |
| 10.2023 - 08.2025 | Master Astronomy , University of Vienna
Master Thesis <i>Disk evolution in a single star-forming region</i>
supervised by <i>João Alves</i> , passed with honours |
| 10.2019 - 07.2023 | Bachelor Astronomy , University of Vienna
Bachelor Thesis <i>Revisiting the ages of circumstellar disks</i>
supervised by <i>João Alves</i> , passed with honours |
| 10.2019 - 09.2023 | Bachelor Physics , University of Vienna
Bachelor Thesis <i>Simulation and optimisation of microstrip antennas for propagating spin wave spectroscopy</i> supervised by <i>Andrii Chumak</i> , passed with honours |

Work experience

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- Research assistant** at RWTH Aachen University in the group of *Philipp Mertsch*
10.2025 -
- Research Internship** on the automatic classification of young stellar objects' light curves at the European Southern Observatory under the supervision of *Amelia Bayo* and *Paula Sánchez Sáez*
03.2025 - 05.2025

Publications

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- Polnitzky et al. 2026 *Precise determination of circumstellar disk lifetimes*, Astronomy and Astrophysics 707, A216; [10.1051/0004-6361/202554921](https://doi.org/10.1051/0004-6361/202554921)

Skills

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- Programming**
- Python** - Proficient
 - Bash** - Intermediate
 - HPC** and **Sturm Workload Manager** - Intermediate
 - Git** - Intermediate
 - SQL** - Intermediate
 - TopCat** - Intermediate

—	Aladin, SAOImage DS9 - Beginner
Skills	Languages German - Native English - B2 Spanish - A1 Japanese - A1 Observations Approved operator of the Vienna Little Telescope of the Department of Astrophysics, University of Vienna
Talks and Posters	Plenary Talk at Star Formation Fields in Rethymno, Greece, in September 2026 Plenary Talk at Discs On the Exe in Exeter, UK, in July 2026 Parallel Talk at the DPG Spring Meeting in Erlangen, Germany, in March 2026 Part of the LOC and Poster at the Stellar Origins Conference in Vienna in September 2025
Summer Schools	ESO Summer School: Writing and Communicating your Science in Munich, Germany, from 20th to 24th of July, 2026
Teaching	As Teaching Assistant at RWTH Aachen University Theoretical Quantum Mechanics - Summer Semester 2025 As Tutor at the University of Vienna Interstellar medium and star formation - Winter semester 2023 and 2024 Stars and planets - Winter semester 2023 and 2024 Astronomical lab course - Summer semester 2024 Observational lab course (Observatory practice) - Summer semester 2024 Astrophysics I (Part 1) - Summer semester 2022 and 2023 Astrophysics I (Part 2) - Winter semester 2022 Theoretical Quantum Mechanics - Summer semester 2022 and 2023
Scholarships	Merit Scholarship of the University of Vienna awarded every year from 2020 to 2025.
Extracurricular Experience	Elected student representative for Astronomy from July 2021 to June 2025.