Laurin Söding

PhD student

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Curriculum Vitæ

May 2024

Education

since 2022 › **Ph.D. student,** Institute for Theoretical Physics and Cosmology (TTK), RWTH Aachen University.

2019 – 2022 › **M.Sc. Physics,** Institute for Theoretical Physics, Ruprecht Karl University of Heidelberg, final grade: 1.2 ("very good").
Thesis title: *Fuzzy Dark Matter Dynamics in the Early Universe within Kinetic Field Theory*.

2016 – 2019 › **B.Sc. Physics,** Institute for Astrophysics, Georg August University of Göttingen, final grade: 1.7 ("good").
Thesis title: *Simulating Interference Effects of Axion Dark Matter*.

Publications

Journal Articles

1 A. Ramírez, G. Edenhofer, T. A. Enßlin, *et al.*, "The influence of the 3D Galactic gas structure on cosmic-ray transport and gamma-ray emission," *arXiv e-prints*, arXiv:2407.02410, arXiv:2407.02410, Jul. 2024. DOI: 10.48550/arXiv.2407.02410. arXiv: 2407.02410 [astro-ph.HE].

2 **L. Söding**, G. Edenhofer, T. A. Enßlin, *et al.*, "Spatially Coherent 3D Distributions of HI and CO in the Milky Way," *arXiv e-prints*, arXiv:2407.02859, arXiv:2407.02859, Jul. 2024. arXiv: 2407.02859 [astro-ph.GA].

3 A. Laguë, J. R. Bond, R. Hložek, D. J. E. Marsh, and **L. Söding**, "Evolving ultralight scalars into non-linearity with Lagrangian perturbation theory," *MNRAS*, vol. 504, no. 2, pp. 2391–2404, Jun. 2021. DOI: 10.1093/mnras/stab601. arXiv: 2004.08482 [astro-ph.CO].

Conference Proceedings

1 **L. Soding**, P. Mertsch, and V. H. M. Phan, "Bayesian inference of 3D densities of galactic HI and H2," vol. ICRC2023, 2023, p. 658. DOI: 10.22323/1.444.0658. arXiv: 2309.14075 [astro-ph.GA].

Teaching

summer term 2024 › **Tutoring,** Theoretical Physics 3 (Quantum mechanics).

winter term 2023/24 › **Tutoring,** Theory of Relativity and Cosmology.

summer term 2023 › **Tutoring,** Theoretical Physics 1 (Classical mechanics).

winter term 2017/18 › **Tutoring,** Introductory courses, Analysis 1.

Skills

Languages › German (native), English (fluent), French (beginner)

Coding › Python, C++, C, CUDA

Skills (continued)

Typesetting › LaTeX, Office suites.

References

Available on request