

Education

2020–now Munich	Astrophysics, PhD , Ludwig-Maximilians-Universität Thesis: Cosmic Rays, Turbulence and Magnetic Fields in Galaxy Clusters. Supervisors: Prof. Dr. Klaus Dolag & Prof. Dr. Harald Lesch
2017–2020 Munich	Astrophysics, M.Sc. , Ludwig-Maximilians-Universität GPA: 4.0 Thesis: Cosmic Rays in Galaxy Clusters - An on-the-fly Fokker-Planck Solver for Open-Gadget3; Supervisor: Prof. Dr. Klaus Dolag
2014–2017 Munich	Physik, B.Sc. , Ludwig-Maximilians-Universität GPA: 2.7 Thesis: Radial Orbit Instability - Analysis of geometry in unperturbed and perturbed systems; Supervisor: Prof. Dr. Andreas Burkert
2011–2014 Munich	Musicology, B.A. , Ludwig-Maximilians-Universität GPA: 3.0 Thesis: Witold Lutoslawski's Concerto for Orchestra in the context of Socialist Realism; Supervisor: Prof. Dr. Wolfgang Rathert
2011 Munich	Highschool Diploma , Theodolinden Gymnasium GPA: 3.3 Majors: English and Music

Contributions at Conferences and Workshops

October 2023	Revealing Cosmic Magnetism in the new Future , Paris, <i>FR</i> (Talk)
July 2023	International Cosmic Ray Conference , Nagoya, <i>JP</i> (Talk)
January 2023	Cosmic Magnetism in Voids and Filaments , Bologna, <i>IT</i> (Talk)
August 2022	International Astronomical Union General Assembly , Busan, <i>KOR</i> (Poster)
March 2022	Clusters & Relics , Tautenburg, <i>GER</i> (Talk)
July 2021	MIAPP workshop - High energy phenomena in astrophysics , Munich, <i>GER</i> (Talk)

Awarded Computing Time

2023	GAUSS Large Scale Project (co-I, PI: Klaus Dolag) , The Local Universe: Galaxies, Clusters, The LSS and Cosmic Rays 69 Million CPUh
2022	C2PAP Computing Grant (PI) , Galaxy Clusters with Spectral Cosmic Rays 6.5 Million CPUh
2020	GAUSS Large Scale Project (co-I, PI: Klaus Dolag) , COMPASS 50 Million CPUh

Teaching & Supervision

2023	Masters Thesis , Students: Daniel Karner, Julian Sommer Assisting supervisor
2022	Astrophysics III , Lecture: Prof. Harald Lesch Teaching Assistant
2021	Astrophysics II , Lecture: Prof. Harald Lesch Teaching Assistant
2021	Bachelor Thesis , Student: Julian Sommer Assisting supervisor
2020	Theoretical Astrophysics , Seminar: Prof. Harald Lesch Teaching Assistant
2020	Astrophysics I , Lecture: Prof. Harald Lesch Teaching Assistant

Public Outreach

2023	Café & Kosmos , Outreach event by ORIGINS/LMU/TUM Public Talk
2021	Entropia , Podcast Interview
2019	BR Campus Magazin , TV documentary Interview
2019	Tag der Physik , Public outreach day of the LMU physics department Mentor
2016-2019	LMU Campus Tag , Public outreach day of the LMU Mentor

Work experience

<i>March 2023–Now</i> <i>Munich/Garching</i> CONNECTOR MANAGER	Excellence Cluster ORIGINS , Turbulence Connector Tasks: <ul style="list-style-type: none">> Organisation of monthly collaboration meeting> Summary of ongoing projects for scientific outreach> PI rights (e.g. steering, visitor invitation)
<i>Jan. 2017–March 2019</i> <i>Munich/Haar</i> WORKING STUDENT	attocube Systems AG , Customer Success / Business Intelligence Process optimisation and data analysis, e.g.: <ul style="list-style-type: none">> Development of an automated customer satisfaction survey (NPS) using SSIS and Python> Gathering and evaluating of key data concerning quality assurance, customer satisfaction and R&D

Publications

2023	Simulating the LOcal Web (SLOW) - III: Synchrotron Emission from the Local Cosmic Web , Böss, L., Dolag, K., Steinwandel, U., Hernández-Martínez, E., Seidel, B., Sorce, J. G., arXiv:2310.13734, submitted to A&A
2023	A formation mechanism for 'Wrong Way' Radio Relics , Böss, L., Steinwandel, U., Dolag, K., arXiv:2309.00046, accepted for publication in ApJL
2023	CRESCENDO: An on-the-fly Fokker-Planck Solver for Spectral Cosmic Rays in Cosmological Simulations , Böss, L., Steinwandel, U., Dolag, K., Lesch, H., MNRAS, 519,1, pp.548-572
to be submitted	Simulating the LOcal Web (SLOW) - V: γ-ray Emission from the Local Universe , Böss, L., Khabibullin, I., Dolag, K., Steinwandel, U., Hernández-Martínez, E., Sorce, J. G.
2023	Towards cosmological simulations of the magnetized intracluster medium with resolved Coulomb4 collision scale , Steinwandel, U., Dolag, K., Böss, L., Marin, T., arXiv:2306.04692 <i>Contributions:</i> Scientific input, Fig. 3, 4, 10 & 13 in publication.
2023	Insights on the origin of ORCs from cosmological simulations , Dolag, K., Böss, L., Koribalski, B., Steinwandel, U., Valentini, M., ApJ, 945, 74 <i>Contributions:</i> Post-processing of the CR component, related figures and chapters in the paper. Interactivate figure in the online publication.
2022	Virgo: Scalable Unsupervised Classification of Cosmological Shock Waves , Lamparth, M., Böss, L., Steinwandel, U., Dolag, K., arXiv:2208.06859 <i>Contributions:</i> Scientific input, development contribution, all figures in publication.
2022	On the small scale turbulent dynamo in the intra cluster medium: A comparison to dynamo theory , Steinwandel, U., Böss, L., Dolag, K., Lesch, H., ApJ, 933, 2, 131 <i>Contributions:</i> Analysis tools and scripts. Related test simulations.
2019	WVTICs - SPH initial conditions for everyone , Arth, A., Donnert, J., Steinwandel, U., Böss, L., et al., arXiv:1907.11250 <i>Contributions:</i> Implementation of the artificial bias correction and writing the corresponding section. Rerunning the tests and figures for the paper.

Skills

Languages

German	First language
English	Fluent
French	Conversation skills
Italian	Basic communication skills

Programming skills

Julia	●●●●○	C/C++	●●●●○	Python	●●●●○	Fortran	●●●○○○
SQL	●●●●○	HTML/CSS	●●○○○				