

Particulars

Last Name	Zuercher
First Name	Dominik
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Education

2018 – present	PhD in Physics, ETH Zurich, Switzerland <i>Supervisor: Alexandre Refregier</i>
2016 – 2018	M.Sc. in Interdisciplinary Sciences, ETH Zurich, Switzerland
2013 – 2016	B.Sc. in Interdisciplinary Sciences, ETH Zurich, Switzerland

Languages

German (Mother-tongue)
English (C1 Level)
French (B1 Level)
Japanese (Basic knowledge)

Programming/IT skills

I am a computer enthusiast interested in particular in the Linux operating system. Thanks to that I acquired some knowledge about the inner workings of operating systems in general as well as some basic system administrator skills. In my research I use state-of-the-art supercomputers to run massively parallelized simulations and big data analyses. I use different programming languages in my daily work. Primarily I work with Python. I am especially familiar with libraries used for data visualization (matplotlib, getdist, tkinter), data analysis (numpy, pandas, scipy, scikit-learn) as well as some libraries related to high performance computing (mpi4py, numba, emcee, h5py). During my work I also learned the basics of software engineering including git, continuous integration (CI) and code testing.

Programming languages:

General	Python (advanced), R (intermediate), C/C++ (intermediate)
Web development	HTML (basics), CSS (basics), JavaScript (basics)
Others	Scripting/Bash (intermediate), LaTeX (intermediate)

Other work-related skills

Quantitative data analysis, statistics, data compression, principal component analysis (PCA), Gaussian processes, big data, data visualization, cryptology, basic knowledge about machine learning and deep neural networks

Publications/Research projects

Publications:

Zürcher, Dominik, et al. Cosmological forecast for non-Gaussian statistics in large-scale weak lensing surveys."Journal of Cosmology and Astroparticle Physics 2021.01 (2021): 028.

Fagioli, Martina, et al. SSpectro-imaging forward model of red and blue galaxies."Journal of Cosmology and Astroparticle Physics 2020.06 (2020): 050.

Zürcher, Dominik, and Surhud, More. The splashback radius of Planck SZ clusters.The Astrophysical Journal 874.2 (2019): 184.

Other research projects:

2018	Master thesis in research group of Masahiro Takada at University of Tokyo, Tokyo, Japan
2016	Bachelor thesis in research group of Andre Rubbia at CERN, Geneva, Switzerland

Teaching

2021	Physics II for chemists and chemical engineers at ETH Zurich, Switzerland
2020	Physics II for electrical engineers at ETH Zurich, Switzerland
2020	Astrophysics II at ETH Zurich, Switzerland
2019	Physics I for physicists at ETH Zurich, Switzerland
2019	Astrophysics II at ETH Zurich, Switzerland

Supervision

2021	Master thesis of a student in the Cosmology Research Group ETH Zurich, Switzerland
2020	Master thesis of a student in the Cosmology Research Group ETH Zurich, Switzerland
2019	Bachelor thesis of a student in the Cosmology Research Group ETH Zurich, Switzerland

2018

Semester project of a student in the Cosmology Research
Group ETH Zurich, Switzerland

Hobbies

Mountaineering, weight-lifting, running, skiing

External resources

[GitHub page](#)

[ETH Cosmo Gitlab](#)

Lead-developer of :
[esub-epipe](#)
[estats](#)
[NGSF](#)
[ekit](#)