LIST OF PUBLICATIONS

In preparation

- ☐ **Böhm, V.** and Kim, A., "Fast and efficient identification of anomalous galaxy spectra with neural density estimation". *To be submitted.*

Preprints under review

- ☐ **Böhm, V.** and Liu, J., "Impact of Covid on Astronomy - Two years in", accepted to *Nature Astronomy*. https://arxiv.org/abs/2203.15621v1
- ☐ **Böhm, V.**, et al., "SAR-based landslide classification pretraining leads to better segmentation". Submitted to *AI+HADR Workshop @Neurips* 2022
- ☐ Mahes, R., Prapas, I., Leong, W., **Böhm, V.**, et al. "Deep Learning for Rapid Landslide Detection using Synthetic Aperture Radar (SAR) Datacubes". Submitted to *Climate Change AI Workshop @Neurips* 2022
- ☐ Mahes, R., Prapas, I., Leong, W., **Böhm, V.**, et al. "Deep learning based landslide density estimation on SAR data for rapid response". Submitted to *AI+HADR Workshop @Neurips* 2022

Published

- ☐ Stein, G., Seljak, U., **Böhm, V.,** The Nearby Supernova Factory Collaboration, "A Probabilistic Autoencoder for Type Ia Supernovae Spectral Time Series", *The Astrophysical Journal, vol. 935, no. 1* (2022). https://iopscience.iop.org/article/10.3847/1538-4357/ac7c08/pdf
- ☐ **Böhm, V.** and Seljak, U., "Probabilistic Autoencoder", *Transactions on Machine Learning Research* (2022), https://openreview.net/pdf?id=AEoYjvjKVA
- ☐ **Böhm, V.**, Feng, Y., Lee, M., Dai, B., "MADLens - a package for fast and differentiable non-Gaussian lensing simulations", *Astronomy and Computing,* Volume 36 (2021). https://doi.org/10.1016/j.ascom.2021.100490
- ☐ Modi, C., **Böhm, V.**, Ferraro, S., Seljak, U., Stein, G., "Estimating COVID-19 mortality in Italy early in the COVID-19 pandemic", *Nat Commun* **12,** 2729 (2021). https://doi.org/10.1038/s41467-021-22944-0
- ☐ Singh, C., Ha, W., Lanusse, F., **Boehm, V.**, Liu, J., Yu, B., "Transformation Importance with Applications to Cosmology." *ICLR 2020 Workshop on Fundamental Science in the era of AI,* (2020). https://deepai.org/publication/transformation-importance-with-applications-to-cosmology
- ☐ **Böhm, V.**, Modi, C., & Castorina, E. "Lensing corrections on galaxy-lensing cross correlations and galaxy-galaxy auto correlations", *Journal of Cosmology and Astroparticle Physics*, 2020(03):045–045, (2020). https://iopscience.iop.org/article/10.1088/1475-7516/2020/03/045
- ☐ **Böhm, V.**, Lanusse, F., & Seljak, U., "Uncertainty Quantification with Generative Models". *NeurIPS 2019 Bayesian Deep Learning Workshop,* (2019). http://bayesiandeeplearning.org/2019/papers/91.pdf

- ☐ Coulton, W. R., Liu, J., Madhavacheril, M.S., **Böhm, V.**, Spergel, D.N., "Constraining Neutrino Mass with the Tomographic Weak Lensing Bispectrum", *Journal of Cosmology and Astroparticle Physics*, 2019(05):043–043, (2019). https://iopscience.iop.org/article/10.1088/1475-7516/2019/05/043
- ☐ **Böhm, V.**, Sherwin, B. D., Liu, J., Hill, J. C., Schmittfull, M., & Namikawa, T., "On the effect of non-Gaussian lensing deflections on CMB lensing measurements.", *Phys. Rev. D*, 98:123510, (2018). https://doi.org/10.1103/PhysRevD.98.123510
- ☐ **Böhm, V.**, Hilbert, S., Greiner, M., & Enßlin, T. A., "Bayesian weak lensing tomography: Reconstructing the 3D large-scale distribution of matter with a lognormal prior", *Phys. Rev. D,* 96:123510, (2017). https://doi.org/10.1103/PhysRevD.96.123510
- ☐ Porqueres, N., Enßlin, T. A., Greiner, M., **Böhm, V.**, Dorn, S., Ruiz-Lapuente, P., & Manrique, A., "Cosmic expansion history from SNe Ia data via information field theory - the charm code", *Astronomy & Astrophysics* 599:A92, (2017). https://doi.org/10.1051/0004-6361/201629527
- ☐ Liu, J., Hill, J. C., Sherwin, B. D., Petri, A., **Böhm, V.**, & Haiman, Z., "CMB Lensing Beyond the Power Spectrum: Cosmological Constraints from the One-Point PDF and Peak Counts", *Phys. Rev. D*, 94:103501, (2016). https://doi.org/10.1103/PhysRevD.94.103501
- ☐ **Böhm, V.**, Schmittfull, M., & Sherwin, B. D., "A bias to CMB lensing measurements from the bispectrum of large-scale structure", *Phys. Rev. D*, 94:043519, (2016). https://doi.org/10.1103/PhysRevD.94.043519
- ☐ Dorn, S., Enßlin, T. A., Greiner, M., Selig, M., & **Boehm, V.**, "Signal inference with unknown response: Calibration-uncertainty renormalized estimator", *Phys. Rev. E*, 91:013311, (2015). https://doi.org/10.1103/PhysRevE.91.013311