

Stanford



Philipp Frank

Postdoctoral Scholar, Physics

Bio

BIO

Philipp Frank is an Astronomy and Machine Learning researcher who is developing and applying statistical and ai methods to help deepen our understanding of the structure of the Milky Way and the Cosmos. He did his PhD and a followup Postdoc in Germany at Ludwig Maximilians University and the Max-Planck-Institute for Astrophysics where he worked on probabilistic ML and numerical inference methods and contributed to applications ranging from radio interferometry, X- and gamma-ray imaging, Cosmic Ray air-shower reconstructions, and 3d maps of the dust and gas content of our local Galactic neighborhood.

As a KIPAC Fellow at Stanford he aims to push 3D mapping of the interstellar medium to unprecedented scales in both size and resolution, and incorporate multiple additional tracers for a more comprehensive picture of local structures. This aims to shed light on the mechanisms of star formation and galaxy dynamics across scales only accessible through our unique vantage point within the Galaxy.

STANFORD ADVISORS

- Susan Clark, Postdoctoral Faculty Sponsor

LINKS

- www.ph-frank.de: <http://www.ph-frank.de>

Publications

PUBLICATIONS

- **Latent-space field tension for astrophysical component detection** *ASTRONOMY & ASTROPHYSICS*
Guardiani, M., Eberle, V., Westerkamp, M., Rustig, J., Frank, P., Ensslin, T.
2025; 703
- **Spatially coherent 3D distributions of HI and CO in the Milky Way** *ASTRONOMY & ASTROPHYSICS*
Soeding, L., Edenhofer, G., Ensslin, T. A., Frank, P., Kissmann, R., Phan, V., Ramirez, A., Zandinejad, H., Mertsch, P.
2025; 693
- **Towards a Field-Based Bayesian Evidence Inference from Nested Sampling Data** *ENTROPY*
Westerkamp, M., Roth, J., Frank, P., Handley, W., Ensslin, T.
2024; 26 (11)
- **Disentangling the Faraday rotation sky** *ASTRONOMY & ASTROPHYSICS*
Hutschenreuter, S., Haverkorn, M., Frank, P., Raycheva, N. C., Ensslin, T. A.
2024; 690