Inferring dark matter substructure with global astrometry beyond the power spectrum

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Abstract

Abstract goes here

1 Introduction

2 Model and inference

Template regression

3 Tests on simulated data

4 Conclusions and outlook

Code and data used for reproducing the results presented in this paper is available at https://github.com/smsharma/sbi-astrometry.

Broader Impact

We acknowledge the importance of considering the ethical implications of scientific research in general, and machine learning research in particular, as well as of placing both the process and output of scientific research in a broader societal context. We do not believe the present work presents any issues in this regard.

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This research has made use of NASA's Astrophysics Data System. This research made use of the Astropy [1, 2], GPyTorch [3], HEALPix [4, 5], IPython [6], Jupyter [7], Matplotlib [8], NumPy [9], Pyro [10], PyTorch [11], SciPy [12], and Seaborn [13] software packages.

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