

# HELP: Probabilistic De-blender for Herschel SPIRE maps

P.D. Hurley,<sup>1\*</sup> S. Oliver,<sup>1</sup>

<sup>1</sup>*Astronomy Centre, Department of Physics and Astronomy, University of Sussex, Falmer, Brighton BN1 9QH, UK*

Released 2002 Xxxxx XX

## ABSTRACT

Software available at [https://github.com/pdh21/XID\\_plus/](https://github.com/pdh21/XID_plus/).

**Key words:** galaxies: statistics – infrared: galaxies

## 1 INTRODUCTION

## 2 DATA

## 3 ALGORITHM

### 3.1 Probabilistic Model

### 3.2 Stan

### 3.3 Segmentation

### 3.4 Uncertainties and Covariances

## 4 SIMULATIONS

### 4.1 XID+ vs. DESPHOT

### 4.2 Performance with Priors

## 5 XID+SCIENCE

## 6 CONCLUSIONS

## ACKNOWLEDGEMENTS

\* Email: [p.d.hurley@sussex.ac.uk](mailto:p.d.hurley@sussex.ac.uk)