fitDF

Release 0.1

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CHAPTER 1

Installation

To install, clone the repository and run

```
python setup.py install
```

in your desired environment.

CHAPTER 2

Example usage

In this tutorial we'll demonstrate using fitDF on a galaxy luminosity function. First, we can generate some fake observational data (counts per luminosity bin) by running

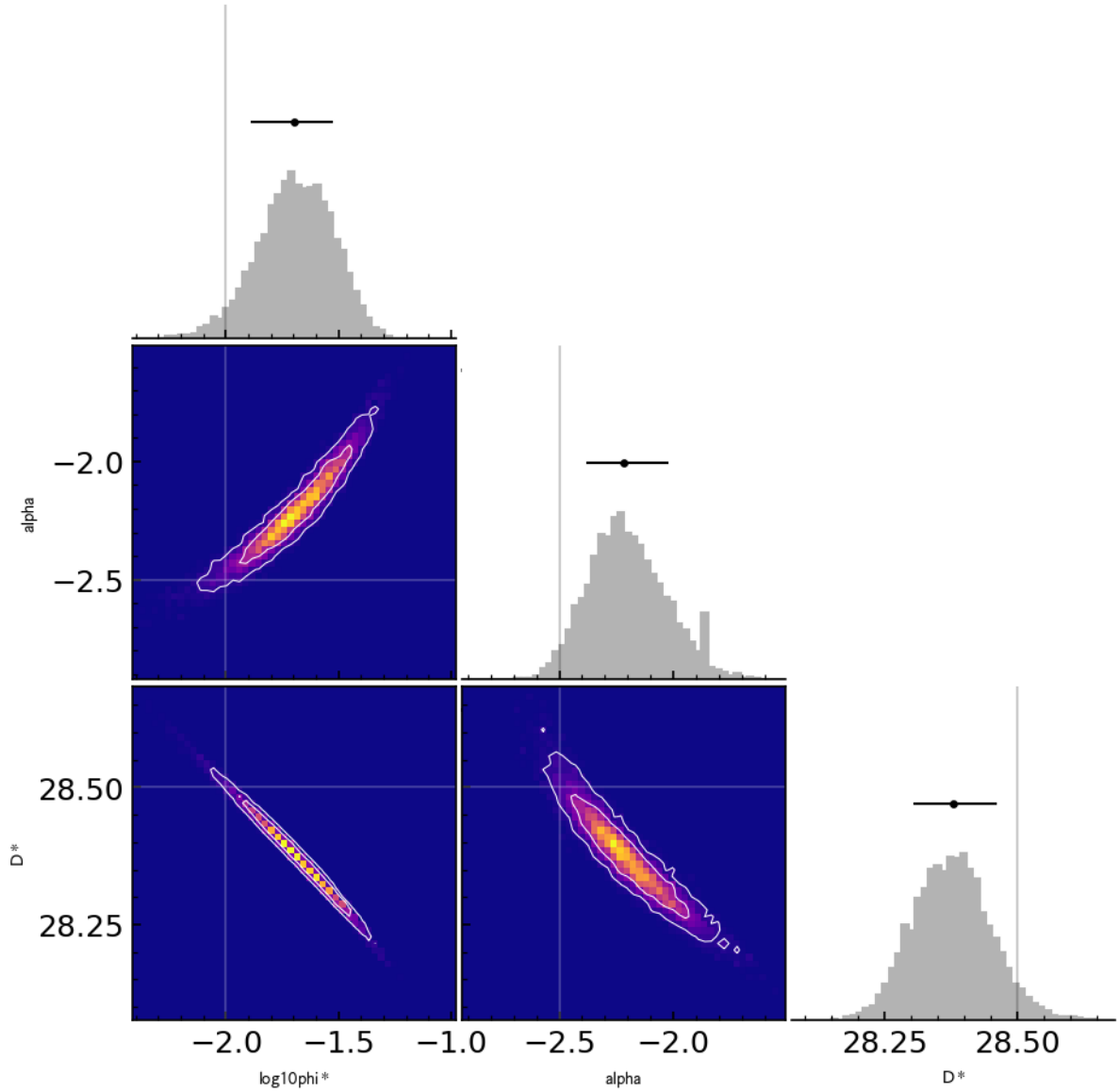
```
python generate_fake_observations.py
```

This produces two files, `fake_observations.json` and `input_parameters.json`, which contain the counts and the chosen input parameters, respectively.

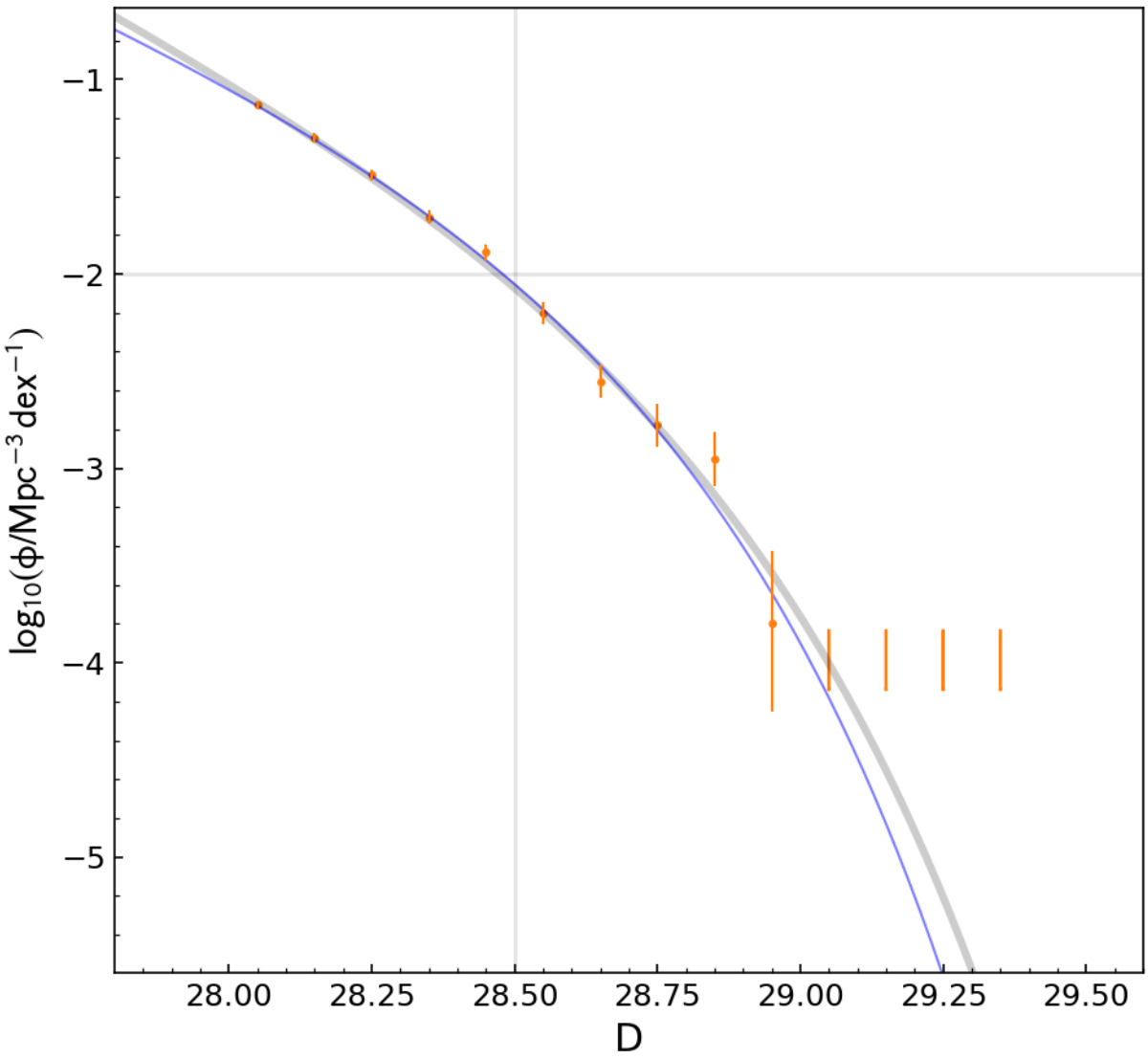
Now we can run our fit:

```
python example_fit.py
```

this performs MCMC to fit the observations using a single Schechter function model (identical to that used in the data generation). Once the sampling is complete, two plots are produced. `triangle.png` shows a triangle (corner) plot of the posterior parameter distributions, with the original parameters shown as the horizontal lines on each marginal distribution.



`LF.png` shows the fitted luminosity function. The original and fitted functions are both shown, as well as the original data.



You can experiment with the contents of `example_fit.py`. For example, try changing the number of samples or burn-in period, or even adjust the prior parameter distributions. `example_fit.py` can be used as a template for your own projects.

CHAPTER 3

Indices and tables

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