

This folder contains the matlab function (slipBERI.m) and a folder (slipBERIImbin) containing all functions required to run slipBERI.

The function slipBERI.m contains a detailed description of all inputs required in the eight structures.

Run this function in matlab by:

```
slipBERI( fault, data, testing, invert, priors, elastic_params, display, housekeeping )
```

For examples of how to use this function, please see elsewhere in this data repository the files from the 2014 Napa Valley Earthquake (<https://doi.org/10.5518/445>) and the 2016 Central Tottori earthquake (<https://doi.org/10.5518/446>). In the corresponding files there is a folder of all required data and a matlab script which will generate the required inputs. Once this script is run, the function slipBERI can be run, as above.

Some of the sub-functions in slipBERIImbin have been written by A. Hooper, T. Ingleby, T. Wright, G. Funning, D. Bekaert and some are freely available from mathworks. The author is accredited in the help function of the corresponding script.

For details on the code please see (and also please cite if using in your research):

Amey, R. M. J., Hooper, A., & Walters, R. J. (2018). A Bayesian method for incorporating self-similarity into earthquake slip inversions. *Journal of Geophysical Research: Solid Earth*, 123, 6052–6071.

Note that this code is the latest version in September 2018, compatible with matlab 2017. For updates please see:

<https://github.com/ruthamey>