

Usage of JEWEL generator

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Installing prerequisites

Dependencies

- JEWEL needs **LHAPDF5** to provide the PDF's. Install LHAPDF following the instructions on the LHAPDF web page and download the PDF sets you want to use. Please note that you will need the fortran version of LHAPDF, that is version 5 (and not the new version 6). In its default setup JEWEL needs the CTEPQ6L1 (number 10042) and EPS09LOR_208 sets. The latter can be downloaded from the [EPS09 web page](#).
- The provided Makefile assumes that JEWEL will be compiled with gfortran. People who wish to use a different compiler have to modify the Makefile accordingly.

Download and Install LHAPDF5

<https://lhapdf.hepforge.org/downloads?f=old>

<https://lhapdf.hepforge.org/lhapdf5/install>

Download PDF sets (e.g. 5.9.1)

https://lhapdf.hepforge.org/downloads/?f=pdfsets/5.9.1/EPS09LOR_208.LHgrid

<https://lhapdf.hepforge.org/downloads?f=pdfsets/5.9.1//cteq6ll.LHpdf>

Put them in (lhapdf path)/share/lhapdf/PDFsets/

alternative

Modify Makefile

```
LHAPDF_PATH := (your lhpdf install path)/lib/
```

Modifying your .bashrc or .zshrc

```
export LD_LIBRARY_PATH=/.../lhpdf-5.x.y/lib:$LD_LIBRARY_PATH  
export LHAPATH=/.../lhpdf-5.x.y/share/lhpdf/PDFsets
```

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- Now you have two binaries: jewel-2.2.0-vac and jewel-2.2.0-simple
- `./jewel-2.2.0-vac` <configuration file>
- `./jewel-2.2.0-simple` <configuration file>
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- Show routine `initpythia` in `jewel-2.2.0.f` (roughly line 800)

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