

# Mag - Tutorial 1- Running Benchmarks

## Tutorial 1: Running Benchmarks

Uncompress all files, and create a path (see Chapter 2 of MAG User Manual) Link the grid parameter file to param.f, which enters into most subroutines through “include” statements. For example, a grid parameter file named ‘param32f4.f’ (32 is the spherical harmonics truncation degree; 4 is the longitude symmetry) is linked using:

```
$ ln -sf param32s4.f param.f
```

Compile the program as follows (renaming the executable in line 2 is optional):

```
$ make
$ mv magx magx32s4
```

MAG uses a standard input file. Background execute using par.XXX as the input file and .YYY as the output file’s extension, e.g., ‘\$ magx32s4 p.YYY &’, so to run with the benchmark input files (par.bnch0 or par.bnch1), the execution statement should be:

```
$ magx32s4 <par.bnch0 >p.bench0 &
```

If there is a problem with the input file list, it is often the final three lines; with some systems, a “\$” may be required at the end.

MAG produces a series of output files. For example, when using input file par.bnch0 (the example in step 4) MAG generates: ‘l.bench0, ls.bench0, g*i*.bench0 and d*i*.bench0’, where  $i=0,1,2\dots9$ . See Appendix B in the MAG User Manual for details on MAG’s output files. Compare your output files with the data provided in the directory ~/bench-data/data\_bench0.