Geoscientific Model Development Discussions

Interactive
Comment

Interactive comment on "QUAGMIRE v1.3: a quasi-geostrophic model for investigating rotating fluids experiments" *by* P. D. Williams et al.

P. D. Williams et al.

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We thank Dr David Ham for his initial feedback on the source code of the model, dated 15 September 2008, and especially for providing it so early in the review process.

Build system

The Makefile contains four environment variables (FC, FFLAGS, LIBS, and LM_LICENSE_FILE) which specify directory paths, flags and other information required by the Fortran compiler and NAG library. This information is site-specific and the default settings, in the supplied Makefile, are those appropriate to the AOPP machines at Oxford University. The default settings must be changed according to the local installations of the compiler and library, before the model is built at the user's site.

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We will add the above instructions to the statement on page 222 of the paper. We will also re-create the zip file so that it archives the entire directory rather than individual files, as suggested.

Dependencies

QUAGMIRE uses the NAG library for performing fast Fourier transforms, solving band matrix equations, and the value of π. There are free libraries for these tasks, but potential users of QUAGMIRE are likely to be based in universities, where the NAG library is widely available. Also, the free libraries are not always as efficient as the NAG ones. Finally, the existing examples of QUAGMIRE in the literature (e.g. Williams et al., 2003, 2004, 2005) have used the NAG library, and any switch to a different library could lead to problems of reproducibility. We will include the option of using a free library in future versions of QUAGMIRE, if it becomes clear that the use of a proprietary library is limiting the accessibility of the model.

Software licensing

QUAGMIRE is made freely available under the MIT license. We will add this information, and the text of the license, to the paper.

Interactive comment on Geosci. Model Dev. Discuss., 1, 187, 2008.

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