

## Malcolm Roberts: List of Publications

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### PUBLICATIONS IN PROGRESS

*Detection of Periods and Stationarity in Agent-Based Models*  
With Frederik Schaff and Anna Klabunde

*Structures in spinup of helically forced MHD Turbulence*  
With Matthieu Leroy and Kai Schneider

*Implicitly Padded Convolutions and Correlations on Real Data*

*Parallel Implementation of Implicitly Padded Convolutions*  
With John C. Bowman.

*Renormalisation Limits of Shell Models of Turbulence*  
With John C. Bowman and Bruno Eckhardt.

### SUBMITTED

*Asynchronous OpenCL/MPI numerical simulations of conservation laws*, with Philippe Helluy, Thomas Strub, Michel Massaro. Submitted to Lecture Notes in Computational Science and Engineering (2015).

*Lagrangian/Eulerian Solvers and Simulations for Vlasov*, with Sebastien Guisset, Philippe Helluy, Michel Massaro, Laurent Navoret, and Nhung Pham. Submitted to ESAIM Proceedings and Surveys (2015).

### PEER- REVIEWED ARTICLES

*Adaptive Matrix Transpose Algorithms for Distributed Multicore Processors*, with John C. Bowman. Interdisciplinary Topics in Applied Mathematics, Modeling and Computational Science, Springer Proceedings in Mathematics & Statistics 117, 97-103 (2015).

*Self-organisation of helically forced MHD flows in confined cylindrical geometries*, with M. Leroy, J. Morales, W. Bos, and K. Schneider. Fluid Dynamics Research, (2014).

*Multithreaded Implicitly Dealiasing Pseudospectral Convolutions*, with John C. Bowman. Proceedings of the 20th Annual Conference of the CFD Society of Canada (2012)

*Pseudospectral Reduction of Incompressible Two-Dimensional Turbulence*, with John C. Bowman. Communications in Nonlinear Science and Numerical Simulation **17:5**, 2008-2013 (2012)

*Dealiasing Convolutions for Pseudospectral Simulations*, with John C. Bowman. Proceedings of the 13th European Turbulence Conference (2011)

*Efficient Dealiasing Convolutions without Padding*, with John C. Bowman. SIAM Journal on Scientific Computing, **33:1**, 386-406 (2011)

*Links between dissipation, intermittency, and helicity in the GOY model revisited*, with John C. Bowman, Charles R. Doering, Bruno Eckhardt, Jahanshah Davoudi, and Jörg Schumacher. *Physica D* **218**, 1-10 (2006)

DISSERTATIONS

*Multispectral Reduction of Two-Dimensional Turbulence*, PhD Thesis, University of Alberta (2011)

*A Multi-Spectral Decimation Scheme for Turbulence Simulations*, M. Roberts, Masters Thesis, University of Alberta (2006)

CONFERENCE  
PROCEEDINGS

*Dealiased convolutions for pseudospectral simulations*, with John C. Bowman, Proceedings of the 13th EUROMECH European Turbulence Conference, Journal of Physics: Conference Series **318** 072037 (2011)

*Report on the Math-Stat Graduate Education Round table* (2010)

*The Multispectral Method: Progress and Prospects*, with John C. Bowman, and Bruno Eckhardt, Advances in Turbulence XII, Proceedings of the 12th EUROMECH European Turbulence Conference 2009, Marburg, Springer Proceedings in Physics (2009)

*General Statistical Design of an Experimental Problem for Harmonics*, with Bill Mawby, Sean Bohum, Peter Gibson, Michael Lamoureux, et al. Proceedings of the Eighth PIMS-MITACS Industrial Problem Solving Workshop (2004)

*Modelling the temperature distribution in concrete structures*, with Tim Myers et al. Proceedings of the 7th PIMS-MITACS Graduate Math Modelling Camp, (2004)

OTHER  
PUBLICATIONS

*Notes for Differential Equations*, with S. Marion (2015)

**FFTW++**: *Fast Fourier Transform C++ Header Class for FFTW3*, with John C. Bowman. [fftwpp.sourceforge.net](http://fftwpp.sourceforge.net), (2010)

**schnaps**: *An OpenCL discontinuous Galerkin solver*, with P Helluy et al. [schnaps.gforge.inria.fr](http://schnaps.gforge.inria.fr), (2015)