

Publication list
GREGORY G. HOWES

PAPERS IN PREPARATION

1. Howes, G. G., Cowley, S. C., and Dorland, W.
Driving and Dissipation of Kinetic Astrophysical Turbulence
Comp. Phys. Comm., in preparation 2008.
2. Bale, S. D., Xu, K., Salem, C., Kasper, J. C., Howes, G. G., and Quataert, E.
Electron Temperature Anisotropies in the Solar Wind
Phys. Rev. Lett., in preparation 2008.
3. Howes, G. G., Tatsuno, T., and Dorland, W.
AstroGK: Astrophysical Gyrokinetics Code
J. Comp. Phys., in preparation 2008.

SUBMITTED PAPERS

1. Nielson, K. D. and Howes, G. G.
Numerical Modeling of LAPD Alfvén Wave Experiments using AstroGK
Phys. Plasmas, submitted 2009.
2. Chandran, B. D. G., Quataert, E., Howes, G. G., Xia, Q., and Pongkitiwanchakul, P.
Constraining low-frequency Alfvénic turbulence in the solar wind using density-fluctuation measurements
Astrophys. J., submitted 2009.

PUBLISHED/ACCEPTED PAPERS

1. Howes, G. G. and Quataert, E.
On the Interpretation of Magnetic Helicity Signatures in the Dissipation Range of Solar Wind Turbulence
Astrophys. J. Lett., in press 2009.
2. Bale, S. D., Kasper, J. C., Howes, G. G., Quataert, E., Salem, C., and Sundkvist, D.
Magnetic fluctuation power near proton temperature anisotropy instability thresholds in the solar wind
Phys. Rev. Lett., in press 2009.
3. Duru, F., Gurnett, D. A., Frahm, R. A., Winningham, J. D., Morgan, D. D., and Howes, G. G.
Steep, Transient Density Gradients in the Martian Ionosphere Similar to the Ionopause at Venus
J. Geophys. Res., in press 2009.
4. Tatsuno, T., Dorland, W., Schekochihin, A. A., Plunk, G., Barnes, M. A., Cowley, S. C., and Howes, G. G.
Nonlinear phase mixing and phase-space cascade of entropy in gyrokinetic plasma turbulence
Phys. Rev. Lett. **103**, 015003 (2009).
5. Chandran, B. D. G., Dorland, W., Hollweg, J., Howes, G. G., and Quataert, E.
The Turbulent Heating Rate in Strong MHD Turbulence with Nonzero Cross Helicity
Astrophys. J., **701**, 652 (2009).
6. Schekochihin, A. A., Cowley, S. C., Dorland, W., Hammett, G. W., Howes, G. G., Quataert, E., and Tatsuno, T.
Kinetic and Fluid Turbulent Cascades in Magnetized Weakly Collisional Astrophysical Plasmas
Astrophys. J. Supp., **182**, 310–377 (2009).
7. Howes, G. G.
Limitations of Hall MHD as a model for turbulence in weakly collisional plasmas
Nonlin. Processes Geophys., **16**, 219–232 (2009).

8. Schekochihin, A. A., Cowley, S. C., Dorland, W., Hammett, G. W., Howes, G. G., Plunk, G. G., Quataert, E., and Tatsuno, T.
Gyrokinetic turbulence: a nonlinear route to dissipation through phase space
Plasma Phys. Control. Fusion, **50**, 124024 (2008).
9. Howes, G. G., Cowley, S. C., Dorland, W., Hammett, G. W., Quataert, E., Schekochihin, A. A. and Tatsuno, T.
Howes et al. Reply to Comment on "Kinetic Simulations of Magnetized Turbulence in Astrophysical Plasmas"
Phys. Rev. Lett. **101**, 149502 (2008).
10. Howes, G. G., Cowley, S. C., Dorland, W., Hammett, G. W., Quataert, E., and Schekochihin, A. A.
A Model of Turbulence in Magnetized Plasmas: Implications for the Dissipation Range in the Solar Wind
J. Geophys. Res., **113**, A05103 (2008).
11. Howes, G. G.
Inertial Range Turbulence in Kinetic Plasmas
Phys. Plasmas, **15**, 055904 (2008).
12. Howes, G. G., Cowley, S. C., Dorland, W., Hammett, G. W., Quataert, E., Schekochihin, A. A. and Tatsuno, T.
Kinetic Simulations of Magnetized Turbulence in Astrophysical Plasmas
Phys. Rev. Lett. **100**, 065004 (2008).
13. Howes, G. G., Cowley, S. C., Dorland, W., Hammett, G. W., Quataert, E., and Schekochihin, A. A.
Astrophysical Gyrokinetics: Basic Equations and Linear Theory
Astrophys. J. **651**, 590–614 (2006).
14. Maron, J. L. and Howes, G. G.
Gradient Particle Magnetohydrodynamics
Astrophys. J. **595**, 564–572 (2003).
15. Howes, G. G., Cowley, S. C., and McWilliams, J. C.
Local Buoyant Instability of Magnetized Shear Flows
Astrophys. J. **560**, 617–629 (2001).

PEER-REVIEWED CONFERENCE PROCEEDINGS

1. Howes, G. G., Cowley, S. C., Dorland, W., Hammett, G. W., Quataert, E., and Schekochihin, A. A.
Dissipation-scale turbulence in the solar wind
in Turbulence and Nonlinear Processes in Astrophysical Plasmas
AIP Conference Proceedings **932**, 3–8 (2007).

PHD THESIS

1. Howes, G. G.
Galactic Dynamics with Magnetic Fields
Ph.D. thesis, University of California, Los Angeles, (2004).

PUBLISHED CONFERENCE ABSTRACTS

1. Wong, A. Y., Howes, G. G and Rosenthal, G.
Novel Small Scale Accelerator for Fusion Experiments
APS Meeting Abstracts, B1 (1998).
2. Howes, G. G., and Cowley, S.C.
Stability in a sheared flow
APS Meeting Abstracts, 1108P (1999).

3. Howes, G. G., and Cowley, S. C.
How Shear Flow Can Ruin Your Day!
APS Meeting Abstracts, 1047P (2000).
4. Maron, J. L., and Howes, G. G.
Gradient Particle Magnetohydrodynamics, the next generation SPH algorithm
Bulletin of the American Astronomical Society **33** 1483,(2001).
5. Howes, G. G., Maron, J. and Cowley, S.
Gradient Particle Magnetohydrodynamics: A new Lagrangian MHD code
APS Meeting Abstracts, 1080P, (2001).
6. Howes, G. G., and Cowley, S. C.
Global Galactic Disk Simulations Using High-Performance GPM
APS Meeting Abstracts, 1016P (2002).
7. Maron, J., Dennis, T., Howes, G. G., Brandenburg, A., Chandran, B., and Blackman, E.
New Algorithms for Magnetohydrodynamics and Gravity that Emphasize Resolution and Speed
Bulletin of the American Astronomical Society **36** 854 (2004).
8. Howes, G. G.
Adaptive Particle Refinement
APS Meeting Abstracts, 1006P, (2004).
9. Howes, G. G., Cowley, S. C., Dorland, W., Hammett, G. W., Quataert, E. and Schekochihin, A. A.
Magnetized Turbulence in Radiatively Inefficient Accretion Flows
Bulletin of the American Astronomical Society, **38**, 359, (2006).
10. Howes, G. G., Cowley, S. C., Dorland, W., Hammett, G. W., Quataert, E. and Schekochihin, A. A.
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APS Meeting Abstracts, 1115P, (2006).
11. Dorland, W., Ricci, P., Schekochihin, A., Howes, G., Rogers, B. and Ernst, D.
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APS Meeting Abstracts, 1137P, (2006).
12. Barnes, M., Dorland, W., Broemstrup, I. and Howes, G.
Resolution Issues in Continuum Gyrokinetic Simulations
APS Meeting Abstracts, 1138P, (2006).
13. Howes, G. G., Cowley, S. C., Dorland, W., Hammett, G. W., Quataert, E. and Schekochihin, A. A.
Gyrokinetic Simulations of Solar Wind Turbulence
AGU Fall Meeting Abstracts, B2, (2006).
14. Howes, G. G., Cowley, S. C., Dorland, W., Hammett, G. W., Quataert, E. and Schekochihin, A. A.
Critically Balanced Turbulence In Magnetized Plasmas: Implications For Dissipation-scale Turbulence In The Solar Wind
American Astronomical Society Meeting Abstracts **210** 55.01 (2007).
15. Howes, G. G., Cowley, S. C., Dorland, W., Quataert, E. and Schekochihin, A. A.
Turbulence and Plasma Heating in the Solar Wind
AGU Fall Meeting Abstracts, B7, (2007).

16. Kilpua, S., Bale, S., Salem, C., Howes, G., Quataert, E. and Horbury, T.
Measurements of the phase speed of the solar wind turbulence at short wavelengths
AGU Fall Meeting Abstracts, A1152, (2007).
17. Bale, S. D., Xu, K., Salem, C., Kasper, J. C., Quataert, E. and Howes, G. G.
Measured constraints on the suprathermal electron temperature anisotropy in the solar wind
AGU Fall Meeting Abstracts, B3, (2007).