

Ian Abel

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Rudolph Peierls Centre for Theoretical Physics
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Personal

Born on February 19, 1985.

British Citizen

Research Areas

Turbulence in Fusion Plasmas, including both simulations and theory.

Non-thermal particles in Fusion Plasmas, including instability drive and Alfvén Eigenmodes.

Education

Oxford University & Culham Centre for Fusion Energy, 2007 to date
Doctor of Philosophy, Advisors: Dr A. A. Schekochihin & Dr S. E. Sharapov

Cambridge University, Dept. Applied Maths and Theoretical Physics, 2006–2007
Certificate of Advanced Study in Mathematics, Distinction

Cambridge University, Trinity Hall, 2003–2006
B.A. Mathematics, 1st Class Honours

Latymer Upper School, 1996–2003
A-Levels in Maths, Further Maths, Physics and Chemistry (A grade)

Employment

Computer Support, Trinity Hall Computer Support Group,
November 2003 - July 2006, <http://csg.trinhall.cam.ac.uk/>

Temporary Systems Analyst, MX Telecom Ltd.
July - September 2004/2005/2006, <http://www.mxtelecom.com/>

Teaching

Physics Laboratory Demonstration, Imperial College, Oct 2007 - Mar 2008

General Relativity Revision Classes, Merton College, Mar 2009

Optics & Electromagnetism Revision Classes, Merton College, May-June 2009

Publications

Journal Articles

I G Abel, M A Barnes, S C Cowley, W Dorland and A A Schekochihin

Linearized model Fokker-Planck collision operators for gyrokinetic simulations I: Theory

Physics Of Plasmas Vol. 15 (2008), 122509

M A Barnes, I G Abel, S C Cowley, W Dorland, D R Ernst, G W Hammett, P Ricci, B N Rogers
A A Schekochihin and T Tatsuno

Linearized model Fokker-Planck collision operators for gyrokinetic simulations II: Numerical implementation and tests

Physics Of Plasmas Vol. 16 (2009), 072107

I G Abel, B N Breizman, S E Sharapov

Resonant Excitation of Shear Alfvén Perturbations by Trapped Energetic Ions in a Tokamak

Physics Of Plasmas Vol. 16 (2009), 102506

C M Roach, I G Abel, R J Akers, W Arter, M Barnes, Y Camenen, F J Casson, G Colyer, J W Connor, S C Cowley, D Dickinson, W Dorland, A R Field, W Guttenfelder, G W Hammett, R J Hastie, E Highcock, N F Loureiro, A G Peeters, M Reshko, S Saarelma, A A Schekochihin, M Valovic and H R Wilson

Gyrokinetic Simulations of Spherical Tokamaks

Plasma Physics and Controlled Fusion, Vol. 51 (2009) 124020

I G Abel, G G Plunk, E Wang, M A Barnes, S C Cowley, A A Schekochihin

Multiscale Gyrokinetics for Rotating Tokamaks I: Transport and Fluctuations

In Preparation

Conference Proceedings

I G Abel, M A Barnes, S C Cowley, W Dorland, G W Hammett, A A Schekochihin and T Tatsuno

Model Collision Operators for Numerical Gyrokinetics

Theory Of Fusion Plasmas: Proceedings of the Joint Varenna-Lausanne International Workshop, edited by O. Sauter (AIP, 2008), pp. 233-239

Referee Experience

Referee for Plasma Physics and Controlled Fusion and Physics of Plasmas

Presentations

Conferences/Workshops

Poster Presentation at Theory of Fusion Plasmas, Varenna-Lausanne International Workshop, Aug 2008
"Model Collision Operators for Numerical Gyrokinetics"

Poster Presentation at 50th APS Division of Plasma Physics Meeting in Dallas, Nov 2008

"Resonant Excitation of Shear Alfvén Perturbations by Trapped Energetic Ions in a Tokamak"

Invited Talk at 4th IAEA Technical Meeting on Plasma Instabilities, Kyoto, May 2009

"Resonant Excitation of Shear Alfvén Perturbations by Trapped Energetic Ions in a Tokamak"