

MATHEMATICS AND STATISTICS

NEWSLETTER

February-March 2004

CONGRATULATIONS

- To Duncan McKay on being awarded a PPARC Advanced Fellowship here in St Andrews.
 - Jean Reinaud has been awarded a 96,683 grant from EPSRC under the First Grant Scheme for the research project 'A comprehensive exploration of vortex interactions in geophysical flows.' The grant will mainly be used to support a post-doctoral research fellow over two years. Jean would like to thank David Dritschel, Kenneth Falconer and Niki Stalker for their support and help during the preparation of the proposal.
-

WELCOME

- Welcome to Bernhard Kliem (Astrophysikalisches Institut Potsdam, Germany) who is visiting the Solar and Magnetospheric Theory Group for 5 Weeks (23 March 2004 - 30 April 2004). This visit is part of an ongoing collaboration between SMTG and the AIP within the EC funded PLATON Research Training Network. Bernhard's work in recent years has focused on MHD simulations of solar eruptions, in particular in collaboration with Tibor Toeroek, presently a PLATON Young Researcher in St. Andrews. The purpose of this visit is to intensify his collaborations in this area with members of the SMTG.
-

SEMINARS, LECTURES, RESEARCH VISITS

- James McAteer from Queen's University Belfast visited Bernie Robert and Ineke De Moortel on 9 - 11 February. The visit was followed by a return

visit of Ineke De Moortel to Belfast, on 8 - 10 March, to work on an automated routine to detect oscillations in the solar corona, using wavelet analysis.

- Jean Reinaud gave an invited seminar at the University of Edinburgh on “Strong interactions between two quasi-geostrophic vortices”, in which he covered some aspects of the interaction between two co-rotating vortices and presented some early results on the interaction between two counter-rotating vortices in oceanic flows.
- Hubert Baty from Strasbourg came to visit Eric Priest, Alan Hood and Cath Gerrard of the Solar Theory Group for a couple of days from the 22nd of February. They have set up several collaborative projects with him.
- Paul Wood gave a talk St Leonard’s school pupils on the 17th March, broadly on the subject of the Sun. He also attended the RHESSI workshop II in Glasgow on 24th-26th March to discuss particle acceleration and transport in solar flares.
- John Howie will be visiting his family in New Zealand from 13 April to 13 May. Six days after his return he leaves for a short research visit to Adana, Turkey, where he will be working with Hayrullah and Gonca Ayik.
- Duncan McGregor and Alan Cairns visited UKAEA, Culham Science Centre at the end of January and beginning of February. During this visit Duncan gave a talk on his work on Bernstein wave heating and current drive in spherical tokamaks.
- Alan Cairns attended and gave a talk at a discussion meeting on laser acceleration of particles, held on Lisbon on 12th March. Since this happened to be his birthday, he was presented with a cake at the afternoon coffee break.
- Alex Craik spent the week 15-21 March in Paris. On the 15th, he took part in a colloquium on mathematical tables at l’Universit Paris VII, where he gave an invited lecture on the work of Edward Sang; and, on the 18th, he visited the Institute of Hydraulics (LadhyX) at the Ecole Polytechnique.

- Anik De Groof, from KU Leuven (Belgium), visited the Solar Theory Group on 16 - 27 February, to work on the analysis of TRACE data.
-

Not Fair Play!

John Playfair (1748-1819), a student at St Andrews and a Professor at Edinburgh, is rightly regarded as one of the few outstanding British mathematicians and natural philosophers of his day. It was therefore a surprise to find the following in his *Outlines of Natural Philosophy* (1812), vol. 2, p. 231, concerning the expansion of gases as the temperature changes:

”The expansion is at the rate of 1.376 to 1, for 180 degrees of FAHRENHEIT; and for any other temperature x , is

$$(1.376)^{x/180} = (1.376)^{1/180} \times (1.376)^x = (1.0018)(1.376)^x .$$

This has been found by the experiments of GAY LUSAC.”

Those of us who complain of the elementary howlers of students nowadays, may take some comfort that they are in such illustrious company!

A.D.D.C.

NEXT ISSUE

Please send material for the next Newsletter to: mcsnews@mcs.st-andrews.ac.uk