

MATHEMATICS AND STATISTICS

NEWSLETTER

March-April 2005

WELCOME

- Welcome to Brain Welsch from Berkley who is currently visiting the solar group to work with Clare Parnell on magnetic cancellation.
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CONGRATULATIONS

- To Michael McEwan who, together with a team from Birmingham, won the UK Solar Physics football trophy during the NAM/UKSP meeting!
 - To Tom Blyth, whose new book "Lattices and Ordered Algebraic Structures" has recently been published by Springer. The four research students who made up the audience at his last course of lectures will receive complimentary copies in due course. Some lectures are worth attending!
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SEMINARS, LECTURES, RESEARCH VISITS

- Dr Mervyn Freeman, British Antarctic Survey, Cambridge, visited the Solar Group from Monday 14 March to Thursday 17 March to continue a research project started at the Newton Institute Reconnection Programme in August 2004.
- Ineke De Moortel, Toni Diaz, Gavin Donnelly, James McLaughlin and Bernard Roberts recently attended a two day Scientific Discussion Meeting on "MHD waves and oscillations in the solar plasma", held at the Royal Society, London. The meeting was organised by Professors R. Erdelyi, B. Roberts, M. Thompson and M Ruderman, and attracted about 100 participants from all over the UK and Europe as well as from as far afield

as USA and Australia. Ineke gave a talk on "Propagating MHD waves in coronal loops" and Bernie talked about "Slow MHD waves". Bernie also chaired the opening session of the meeting.

- Mag Selwa visited the Solar Group for 2 weeks during April. She is a PhD student working with Kris Murawski, who is a former postdoc of the Solar Group.
- Bernie Roberts, Rhona Maclean, Duncan Mackay, Ineke De Moortel, Antonia Wilmot-Smith, Michael McEwan, Alan Hood, Eric Priest, Brigitta von Rekowski, Michelle Murray, James McLaughlin, Gunnar Hornig and Clare Parnell attended the annual NAM/UKSP meeting which was held in Birmingham from 4 to 8 April. Bernie gave an invited review on "Coronal Seismology"; Rhona presented a poster on "Coronal Topological States in a Spherical Geometry"; Duncan gave two talks titled, "A Dynamic MHD Model for Promiennce Barbs" and "Polar Caps on Active Stars: Magnetic Flux Emergence and Transport"; Antonia gave a contributed talk on "Low-order dynamo models"; James gave a talk and poster on "MHD mode coupling and preferential heating in the neighbourhood of a 2D X-point"; Gunnar gave a contributed talk on "Three dimensional magnetic reconnection"; Clare gave an invited talk entitled "Observational signatures of coronal heating".
- Michelle Murray visited Klaus Galsgaard in Copenhagen on 14 and 15 March.
- James McLaughlin, Alan Hood and Eric Priest attended the 'Principles of MHD' workshop in Leiden, Holland (21-24 April) where James gave a talk on "Behaviour of MHD waves in the neighbourhood of a null points" and Alan talked on "MHD waves and instabilities in the solar corona". Eric Priest gave the opening lecture entitled "Some key issues in solar plasmas".
- Alexandra Cran-McGreehin attended the annual MIST meeting, which took place in Selwyn College, Cambridge, from 5-7 April. She gave a contributed talk on the "Current-voltage relationship in the downward field-aligned current region".
- Ineke De Moortel gave an invited talk on "Propagating MHD waves in coronal loops" at the EGU meeting in Vienna (Austria) on 26 April.
- Gunnar Horning gave an invited talk on "Topological aspects of three-dimensional reconnection" at the Eastern Plasma Meeting in Turin (Italy)

(March 29 - April 1st) and an invited seminar on “Three dimensional magnetic reconnection” at the Applied Mathematics seminar in Sheffield on 22 April.

- Dr Mark Bravington and Dr David Peel (CSIRO, Hobart) and former St Andrews lecturer, Dr Simon Wood (University of Glasgow) visited Sharon Hedley and Len Thomas for three weeks in April to continue work on the spatial density surface estimation component of a RUWPA contract with the U.S. Office of Naval Research. The final outcome of this work will be a module in the software 'Distance' to enable density surfaces (of whales and other taxa) to be estimated in a sensible way, with smoothers 'tamed' to behave well at region edges and in areas of complex topography, with models selected and variances estimated in a way that properly accounts for aggregations of groups of animals within the population.
- Over Easter, Louise Burt visited the Institute of Cetacean Research, Tokyo, to collaborate with scientists there. She has also just returned from the pilot survey of SCANS II (Small Cetaceans in the European Atlantic and North Sea). The main purpose of the pilot survey was to train the cruise leaders ready for the main survey which will take place in July.
- On 21-22 April, Alex Craik and Frank Smith attended a meeting entitled "Turbulence, Twist and Treacle" at the Isaac Newton Institute and DAMTP, Cambridge. This was held to celebrate the 70th birthday of Professor Keith Moffatt. There was a full programme of lectures by former students, colleagues and collaborators of Keith Moffatt, a final, engagingly-informal lecture by Keith himself, and an excellent dinner in Trinity College. Sadly, the meeting co-organiser, Mike Proctor, was admitted to hospital just before the meeting, with a serious condition resulting from of an allergic reaction to medication. The participants sent him a card with good wishes for a speedy recovery.

Alex Craik then spend some days in London, visiting the British Library in pursuit of his historical researches.

- Riwal Plougonven presented a poster at the Ateliers de Modelisation Atmospherique in Toulouse, France (29 November 2004) and gave seminars at the Laboratoire d'Aerologie, Toulouse, France (3 December), the Service d'Aeronomie, Paris, France (7 December), DAMTP, Cambridge (28 January) and School of Mathematics, Edinburgh (14 March).

- Andy Wright and Peter Damiano attended the AGU Chapman Conference on Magnetospheric ULF waves in San Diego in March. Andy gave an invited talk on "The Physics of MHD waves in Magnetospheric Cavities and Waveguides" while Peter spoke on "Electron Response to Standing Shear Alfvén Waves Along Dipolar Magnetic Field Lines". The conference site was the Bahia Resort Hotel which included a private beach which was nice for relaxing on, but although the weather was sunny and warm, the water temperatures were still too chilly for any full body plunges. The conference banquet was held on a paddle-wheel riverboat owned by the hotel, but windy weather prevented us from doing more than sailing in circles around the little hotel harbour. Still, the atmosphere and food were very good.
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NEXT ISSUE

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