Workshop III: Geophysical and Astrophysical Turbulence

Monday October 27, 2014

8:00–9:00 *Check-In/Light Breakfast (Hosted by IPAM)*

9:00–9:40 **Baylor Fox-Kemper** (Brown University)
What's Waves Got to Do with It? Stokes Effects on Turbulence, Fronts, and Instabilities of the Upper Ocean

10:00–10:15 *Break*

10:15–10:55 **Raffaele Ferrari** (Massachusetts Institute of Technology)
Upper ocean turbulence

11:15–11:30 *Break*

11:30–12:10 **Ian Grooms** (New York University)
Stochastic Superparameterization

12:30–2:30 *Lunch (on your own)*

2:30–3:10 **Nicholas Brummell** (University of California, Santa Cruz (UC Santa Cruz))
Interaction of turbulent and laminar effects in the dynamics of the solar tachocline

3:30–3:45 *Break*

3:45–4:25 **Michael Calkins** (University of Colorado Boulder)
Rotating compressible convection and the breakdown of the anelastic approximation

4:45–6:00 *Poster Session & Reception (Hosted by IPAM)*

Tuesday October 28, 2014

8:00–9:00 *Check-in/Breakfast (hosted by IPAM)*

9:00–9:40 **Emmanuel Dormy** (CNRS/École Normale Supérieure, Paris)
Non-linearities in Geodynamo models and their connection to the Weak-field and Strong-field branches

10:00–10:15 *Break*

10:15–10:55 **Benjamin Favier** (Institut de Recherche sur les Phénomènes Hors Equilibre)
Turbulent flows in librating ellipsoids

11:15–11:30 *Break*

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11:30–12:10 **James Cho** (Queen Mary, University of London)
Ageostrophic Shallow-Water Turbulence on the Sphere

12:30–2:00 *Lunch (on your own)*

2:00–2:40 **Annick Pouquet** (National Center for Atmospheric Research)
A large direct numerical simulation of rotating stably stratified turbulence: Evidence for Bolgiano-Obukhov scaling

3:00–3:15 *Break*

3:15–3:55 **Celine Guervilly** (University of Leeds)
Formation of large-scale cyclones in rotating convection

Wednesday October 29, 2014

8:00–9:00 *Check-in/Breakfast (hosted by IPAM)*

9:00–9:40 **Leslie Smith** (University of Wisconsin-Madison)
Minimal Models for Precipitating, Turbulent Convection

10:00–10:15 *Break*

10:15–10:55 **Michael Le Bars** (Institut de Recherche sur les Phénomènes Hors Equilibre)
Understanding exchanges across stratified/convective zones interfaces

11:15–11:30 *Break*

11:30–12:10 **Joao Teixeira** (Jet Propulsion Laboratory)
Turbulence, Convection and Climate Prediction

12:30–2:30 *Lunch (on your own)*

2:30 *Afternoon Free*

Thursday October 30, 2014

8:00–9:00 *Check-in/Breakfast (hosted by IPAM)*

9:00–9:40 **William Young** (University of California, San Diego (UCSD))
Coupling between oceanic near-inertial waves and balanced flow

10:00–10:15 *Break*

10:15–10:55 **Stuart Bishop** (California Institute of Technology)
The influence of mesoscale eddies on air---sea interaction in the Kuroshio Extension region

11:15–11:30 *Break*

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11:30–12:10 **Oliver Bühler** (New York University)
A new wave-vortex decomposition method for one-dimensional turbulence spectra in the atmosphere and ocean.

12:30–2:00 *Lunch (on your own)*

2:00–2:40 **Alex Mahalov** (Arizona State University)
Three-dimensional turbulence in the UTLS and Ionospheric plasmas: non-equilibrium layer dynamics and neutral-plasma interactions at fine scales

3:00–3:15 *Break*

3:15–3:55 **Hubert Klahr** (Max Planck Institute for Astronomy)
Linear stability of accretion disks under the influence of stratification and thermal relaxation

4:15–4:30 *Break*

4:30–5:10 **Jonathan Aurnou** (University of California, Los Angeles (UCLA))
Convective Turbulence in Earth and Planetary Cores

Friday October 31, 2014

8:00–9:00 *Check-in/Breakfast (hosted by IPAM)*

9:00–9:40 **Edgar Knobloch** (University of California, Berkeley (UC Berkeley))
Geostrophic turbulence and the formation of large scale structure

10:00–10:15 *Break*

10:15–10:55 **Keith Julien** (University of Colorado, Boulder)
Approaching the Asymptotic Regime of Rapidly Rotating Convection: Boundary Layers vs Interior Dynamics

11:15–11:30 *Break*

11:30–12:10 **Steve Tobias** (University of Leeds)
Large-scale dynamos at high Rm: do they work and can we get a statistical theory?

12:30–2:00 *Lunch (on your own)*

2:00–2:40 **Nathanael Schaeffer** (Université de Grenoble I (Joseph Fourier))
Rotating dynamo turbulence: theoretical and numerical insights

3:00–3:15 *Break*

3:15–3:55 **Toby Wood** (Newcastle University)
Electron-MHD turbulence in neutron stars