

ERCOFTAC - SIG 35/14/50/39- Pilot Center Henri Benard

PROGRAMME:

Colloquium "ASTROFLU V"

Amphi 203, École Centrale de Lyon

Tuesday, 7th December 2021, Conference-room 203 building W1

- 9:00-9:15 *Registration and welcome coffee*
- 9:15-9:30 *Christophe Bailly*
Welcome and opening remarks
- 9:30-11:00 ***Turbulence onset.*** Chair: Mikhael Gorokhovski
- 9:30-10:00 *Alain Pumir*
Cascade and reconnection in interacting vortex filaments
- 10:00-10:30 *Rémi Zamansky*
Impulsion cascade and stochastic dynamics of a fluid particle at high Reynolds number
- 10:30-11:00 *Refreshment Break*
- 11:00-12:30 ***Stratification/rotation.*** Chair: Claude Cambon
- 11:00-11:30 *Tomas Bodnar*
On some computational challenges in numerical simulations of stably stratified flows
- 11:30-12:00 *Basile Gallet*
Experimental observation of the geostrophic turbulence regime of rapidly rotating convection
- 12:00-12:30 *Thierry Lehner*
Application of scale relativity to rotating turbulence
- 12:30-14:00 *Lunch*
- 14:00-16:30 ***Complex interactions.*** Chair: Julian Scott
- 14:00-14:30 *Etienne Spieser*
Jet noise modeling by an adjoint statement
- 14:30-15:00 *Aurore Naso*
Dynamics and collisions of anisotropic particles settling in turbulence: application to cloud microphysics
- 15:00-15:30 *Ying Zhu*
Testing wave turbulence theory for Gross-Pitaevskii system
- 15:30-16:00 *Nicolas Rimbart*
The solid wall ablation under the impact of the hot liquid jet
- 16:00-16:30 *Faouzi Laadhari*
Méthode de détermination du nombre de Reynolds critique de la transition by-pass dans les écoulements pariétaux

16:30-17:30 *Refreshment Break and a roundtable discussion.*

- *Nicolas Rimbert* : présentation du GdR Transferts et Interfaces
- *Mickael Bourgoïn* : présentation du GdR Navier-Stokes 2.00
- *Claude Cambon, Raffaele Marino, Tomas Bodnar*: SIG ERCOFTAC 14, 50, 39, 35

Wednesday, 8th December 2021, Conference-room 203 building W1

09:00-10:00 **Scalars.** Chair: Raffaele Marino

09:00-09:30 *Luminita Danaila*

A scale-sensitive analysis of differential diffusion and implications for Large-Eddy simulations

09:30-10:00 *Bruno Chaouat*

Passive scalar fluctuations in turbulent flows simulation in the framework of the PITM method

10:00-10:30 *Refreshment Break*

10:30-12:00 **Plasma.** Chair: Wouter Boss

10:30-11:00 *Alejandro Alvarez Laguna*

Méthode des moments d'ordre élevé pour des plasmas partialement ionisés

11:00-11:30 *Raffaello Foldes*

A Machine learning approach for monitoring the plasmaspheric mass density using ground-based measurements

11:30-12:00 *Wesley Agoua*

Transitions turbulentes dans les plasmas de Fusion

12:30-14:00 *Lunch*

14:00-15:45 **New challenges.** Chair: Anne Cadiou

14:00-14:30 *Rolf Walder*

Atmospheres and their numerical treatments in astrophysics

14:30-14:45 *Benjamin Miquel*

Asymptotic reduction for rapidly rotating convection

14:45-15:15 *Amor Khelifi*

Resonant interactions in stratified rotating turbulence with precession

15:15-15:45 *Ryo Araki*

Minimal modelling of the quasi-periodic behavior of turbulence

15:45-16:00 *Claude Cambon*

Concluding remarks