

LadHyX Seminar – January 21, 14:00

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Energy cascade in internal wave attractors

Internal gravity waves play a primary role in geophysical fluids : they contribute significantly to mixing in the ocean and they redistribute energy and momentum in the middle atmosphere. In addition to their very interesting and very unusual theoretical properties, these waves are linked to one of the important questions in the dynamics of the oceans: the cascade of mechanical energy in the abyss and its contribution to mixing.

Combining the physics of waves, dynamical systems theory and oceanography, I will discuss a unique self-consistent experimental and numerical setup that models a cascade of triadic interactions transferring energy from large-scale monochromatic input to multi-scale internal wave motion. I will also provide explicit evidence of a wave turbulence framework for internal waves.

References

- T. Dauxois, S. Joubaud, P. Odier, A. Venaille, *Annual Review of Fluid Mechanics* 50, 131-156 (2018).
G. Davis, T. Jamin, J. Deleuze, S. Joubaud, T. Dauxois, *Physical Review Letters* 124, 204502 (2020).