SEMPARIS – Séminaires en région parisienne

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Forum de Physique Statistique @ ENS

Mercredi 29 Avril 2020, 14 :30
LPENS, https ://zoom.us/j/851050904
Domaines : cond-mat.stat-mech

Titre : *Some topological properties of geophysical and astrophysical waves*

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Résumé : *Over the last decades, concepts from topology have been proven useful to understand peculiar wave properties in a variety of physical systems. Topology predicts the number of unidirectional modes trapped along interfaces or boundaries. The topological origin of a wave usually guarantees its robustness against disorder or changes of parameters in the problem. We will present recent applications to geophysical and astrophysical fluid dynamics, from equatorial waves encountered in El Nino phenomenon to internal waves encountered in stably stratified layers of stars. These geophysical exemples also provide interesting situations with apparent violation of a central concept called the bulk-edge correspondence, which needs to be carefully revisited in the case of continuous media.*