Laboratoire de Physique Théorique et Hautes Energies

Unité Mixte de Recherche (UMR 7589) de Sorbonne Université et du CNRS

SEMINAIRE du LPTHE

Vendredi 14 Décembre 2018, 11:00

Blagoje Oblak

ETH Zurich

Stokes Drift as a Berry Phase

In this talk I revisit Stokes drift in shallow water from a geometric perspective inspired by conformal field theory. Given a fluid on a circular pool supporting periodic waves, I argue that the displacement of fluid particles after one period involves a Berry phase associated with adiabatic conformal transformations. In particular, the phase shift produced by cnoidal waves can be evaluated in closed form, and may be accessible to experiments or numerical simulations. Conceptually, this relates fluid dynamics, symplectic geometry, conformal field theory and Thomas precession.

Bibliothèque du LPTHE, tour 13/14, 4ème étage

N.B. La liste de tous les séminaires en région parisienne est disponible sur
http ://semparis.lpthe.jussieu.fr