

Chez Pierre

Presents ...

Tuesday, October 15, 2024

12:00 pm -1:00 pm

Duboc Room – 4-331



Special Chez Pierre Seminar

Gregory Falkovich, Weizmann Institute

"Looking for quarks in a stormy sea"

I shall describe the recent theoretical advances in the description of turbulence in different media.

An important point is how different the meaning of renormalization in turbulence is from what we used to know in the field theory.

For quartic interaction, we were recently able to compute the vertex renormalization and distinguish systems with electrodynamic-type suppression from those with chromodynamic-type enhancement. The latter leads to turbulence dominated by bound states. New results on strong turbulence in Gross-Pitaevsky model will be presented, As it seems to be a good time to apply the field-theoretical methods to the oldest unsolved problem in physics, I shall list several promising directions.