

Date: May 20th, 2005 (Special Seminar)

Time: 10:30 AM

Location: Olin 305

Speaker: Dr. Paolo Muratore-Ginanneschi
Department of Mathematics and Statistics
University of Helsinki

Title: “Infra-red Renormalization Group for Turbulence”

Abstract

Strong experimental and theoretical evidences support the existence of scale invariant observables in fluid turbulence. Scaling appears to be universal with respect to the large spatial scale (infra-red) behavior of the fluid. Inverse renormalization is an implementation of the Wilson's renormalization group in which, at variance with the scheme usual in the theory of critical phenomena, degrees of freedom associated to large spatial scale are averaged out. In the talk, it will be shown how inverse renormalization can be successfully applied to a solvable model problem of turbulence, the Kraichnan model of passive advection.