

abstract

MEMBERS SEMINAR

Topic:

Speaker:

Affiliation:

Date:

Time/Room:

A very long random walk, seen from so far away that individual steps cannot be resolved, is the continuous random path called Brownian motion. This is a rough statement of Donsker's theorem and it is an example of how models in statistical mechanics fall into equivalence classes classified by their scaling limits. The renormalisation group is a program whose objective is to identify equivalence classes that arise in statistical mechanics. In some simple cases where the scaling limit is close to Gaussian the renormalisation group can be formulated precisely and used to prove theorems. The proofs are based on a special way to decompose the Greens function for an elliptic operator into a sum of positive definite functions with finite range.