

1116-60-617

Jun Kigami* (kigami@i.kyoto-u.ac.jp), Graduate School of Informatics, Kyoto University,
Yoshida Honmachi, Sakyo-ku, Kyoto, Kyoto 6068501, Japan. *Time change of Brownian motion:
Poincare inequality, heat kernel estimate and protodistance.*

In this talk, time change of the Brownian motion of the 2-dim. square is considered. Time change corresponds to the introduction of inhomogeneity of medium. As a consequence, after time change the process has the same paths as the Brownian motion but it can have different speed at each point. Recently, time change with respect to random measures such as Liouville measure, or Liouville quantum gravity has been of much interest in relation with associated random geometry We will define a class of measures called measures with weak exponential decay, which includes Liouville measure, and show the existence of associated time changed process which possesses a jointly continuous heat kernel. To give an estimate of heat kernel, we will introduce the notion of “protodistance”, which is a candidate of proper substitute of intrinsic metric. (Received September 09, 2015)