

タイトル : Behavior of the Heat kernel on gluings

アブストラクト : There are a lot of results for the long time behavior of the heat kernel on non-compact Riemannian manifolds and infinite graphs. Especially, the Gaussian type estimate has been studied and it is known that the relationship between other geometric or analytic properties of the space.

If we study more precise behavior of the heat kernel, it is useful to estimate the spacial gradient of the heat kernel. In this talk, I will talk about the gradient heat kernel estimate on infinite connected sums of two copies of \mathbf{Z}^D lattice graph which is a new space such that the Poincaré inequality holds but the gradient heat kernel estimate does not hold.