Energy inequalities for cutoff functions and heat kernel upper bounds

S. ANDRES AND M.T. BARLOW

It is well known that electrical resistance arguments provide (usually) the best method for determining whether a graph is transient or recurrent. In this talk I will discuss a similar characterization of 'sub-diffusive behaviour' – this occurs in spaces with many obstacles or traps. The characterization is in terms of the energy of cutoff functions in annuli.