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Jeremie Brieussel and **Tianyi Zheng*** (tzheng2@math.ucsd.edu). *Speed of random walks on finitely generated groups and minimal growth of harmonic functions.*

We discuss a flexible construction of groups where the speed (rate of escape) of simple random walk can follow any sufficiently nice function between diffusive and linear. Minimal growth of non-constant harmonic functions on these groups are tightly related to the speed of the random walk. While in a variant of this construction, all harmonic functions of sub-exponential growth factor through a projection to a lamplighter $F \wr \mathbb{Z}$ with F finite. In particular we show that there exist groups on which all sub-linear harmonic functions are constant, while the speed of simple random walk can follow any prescribed super-diffusive function. (Received February 07, 2017)