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# Biased random walk in positive random conductances on $\mathbb{Z}^d$

Alexander Fribergh

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We study the biased random walk in positive random conductances on  $\mathbb{Z}^d$ . This walk is transient in the direction of the bias. Our main result is that the random walk is ballistic if, and only if, the conductances have finite mean. Moreover, in the sub-ballistic regime we find the polynomial order of the distance moved by the particle. This extends results obtained by L. Shen in [\[Shen\]](#), who proved positivity of the speed in the uniformly elliptic setting.

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