THE EXISTENCE OF A STEADY STATE FOR A PERTURBED
SYMMETRIC RANDOM WALK ON A RANDOM LATTICE

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Abstract: In the present paper we consider a continuous time random walk on
an anisotropic random lattice. We show the existence of a steady state \( \bar{\mu}_\alpha \) for the
environment process \( (\zeta(t))_{t \geq 0} \) corresponding to the walk. This steady state has the
property that the ergodic averages of \( (\bar{F}(\zeta(t)))_{t \geq 0} \), where \( F \) is local (i.e. it depends
on finitely many bonds of the lattice only), converge almost surely in the annealed
measure to \( \int F d\bar{\mu}_\alpha \).

2000 AMS Mathematics Subject Classification: Primary 60F17, 35B27; Sec-
ondary 60G44.

Key words and phrases: Random field, passive tracer, random walk in random
environment, Einstein relation.

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