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Erdős, Paul; Révész, P.

Three problems on the random walk in \mathbb{Z}^d . (In English)

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A simple symmetric random walk in \mathbb{Z}^d is considered. The following three functionals are studied and their asymptotic behaviour is analysed:

 $R_d(n)$: Largest integer for which there exists a random variable u such that all the points in the ball of radius $R_d(n)$ centered at u are visited by time n $(d \ge 3)$.

 $\nu_d(n)$: Time needed, after time n, to visit a point not previously visited.

 f_n : Cardinality of the set of "favourite values", i.e. sites most often visited by time n.

B.Bassan (Milano)

Classification:

 $60\mathrm{F}15$ Strong limit theorems $60\mathrm{G}50$ Sums of independent random variables $00\mathrm{A}07$ Problem books

60J15 Random walk

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