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Bing Li* (scbingli@scut.edu.cn), Department of Mathematics, South China University of Technology, Wushan Road 381, Tianhe District, Guangzhou, Guangdong 510640, Peoples Rep of China. *Hitting probabilities of random covering sets in high dimension.*

Let $E = \limsup_{n \rightarrow \infty} (g_n + \xi_n)$ be the random covering set on the torus \mathbb{T}^d , where $\{g_n\}$ is a sequence of ball-like sets and $\{\xi_n\}$ is a sequence of independent random variables uniformly distributed on \mathbb{T}^d . We prove that $E \cap F \neq \emptyset$ almost surely whenever $F \subset \mathbb{T}^d$ is an analytic set with Hausdorff dimension, $\dim_H(F) > d - \alpha$, where α is the almost sure Hausdorff dimension of E . Moreover, examples are given to show that the condition on $\dim_H(F)$ cannot be replaced by the packing dimension of F . This is a joint work with Ville Suomala. (Received January 16, 2015)