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Petito**. *Hitting random set systems*. Preliminary report.

A set  $A \subseteq [n] := \{1, 2, \dots, n\}$  is said to *hit* a collection  $\mathcal{B}$  of subsets of  $[n]$  if  $|B \cap A| \geq 1$  for each  $B \in \mathcal{B}$ . The term *transversal* is sometimes used in place of “hitting set.” We select subsets of  $[n]$  at random with each set chosen independently with probability  $p = p_n$  and exhibit a highly sharp threshold for the minimal size of a hitting set. (Received July 29, 2011)