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ON EXISTENCE OF HAMILTON CYCLES IN UNIFORM RANDOM  
INTERSECTION GRAPHS

We give a sufficient condition for the hamiltonicity of the uniform random intersection graph  $G_{n,m,d}$ . It is a graph on  $n$  vertices, where each vertex is assigned  $d$  keys drawn independently at random from a given set of  $m$  keys, and where any two vertices establish an edge whenever they share at least one common key. We show that with probability tending to 1 the graph  $G_{n,m,d}$  has a Hamilton cycle provided that  $n = 2^{-1}m(\ln m + \ln \ln m + \omega(m))$  with some  $\omega(m) \rightarrow +\infty$  as  $m \rightarrow \infty$ .