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Jie Han (jhan@ime.usp.br) and **Yi Zhao*** (yzhao6@gsu.edu). *Hamiltonicity in randomly perturbed hypergraphs.*

For integers $k \geq 3$ and $1 \leq \ell \leq k - 1$, we prove that for any $\alpha > 0$, there exist $\epsilon > 0$ and $C > 0$ such that for sufficiently large $n \in (k - \ell)\mathbb{N}$, the union of a k -uniform hypergraph with minimum vertex degree αn^{k-1} and a binomial random k -uniform hypergraph $\mathbb{G}^{(k)}(n, p)$ with $p \geq n^{-(k-\ell)-\epsilon}$ for $\ell \geq 2$ and $p \geq Cn^{-(k-1)}$ for $\ell = 1$ on the same vertex set contains a Hamiltonian ℓ -cycle with high probability. Our result is best possible up to the values of ϵ and C and answers a question of Krivelevich, Kwan and Sudakov. (Received February 10, 2018)