Resilience for cycle covers in sparse random graphs

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A well-known theorem of Dirac (1952) states that every graph on n vertices with minimum degree at least $n/2$ is Hamiltonian. A less well-known generalization of this is due to Kouider and Lonc (1994): every graph with minimum degree n/k has a vertex cover by $k - 1$ cycles. I will talk about a random graph analogue of this theorem: if $p > n^{-1+\varepsilon}$ for some $\varepsilon > 0$, then whp every subgraph of $G(n, p)$ with minimum degree at least $(1 + \varepsilon)np/k$ has a vertex cover by $k - 1$ cycles. This is joint work with Milos Trujic and Nemanja Skoric.