1146-05-208   **Linyuan Lu*** (`lu@math.sc.edu`), Leconte College, 1523 Greene Street, Columbia, SC 29208-0001, and **Zhiyu Wang** (`zhiyuw@math.sc.edu`), Leconte College, 1523 Greene Street, Columbia, SC 29208-0001. *Minimum co-degree threshold for Berge Hamiltonian cycles in hypergraphs.*

We show that for every finite set R of positive integers, there is an integer $n_0 = n_0(R)$ such that every R-uniform hypergraph $\mathcal{H}$ on n ($n \geq n_0$) vertices with minimum co-degree $\delta_2(\mathcal{H}) \geq 1$ contains a Berge cycle C_s for any $3 \leq s \leq n$. For $R = \{3\}$, we show that every 3-graph on $n \geq 7$ vertices with co-degree at least one contains a Hamiltonian Berge cycle. As an application, we determine the maximum Lagrangian of k-uniform Berge-C_t-free hypergraphs and Berge-P_t-free hypergraphs. (Received January 22, 2019)