1171-05-229 **Jiaxi Nie*** (`jin019@ucsd.edu`) and **Jacques Verstraëte** (`jbaverstraete@gmail.com`). *Ramsey Numbers for Non-trivial Berge Cycles.*

In this paper, we consider an extension of cycle-complete graph Ramsey numbers to Berge cycles in hypergraphs: for $k \geq 2$, a *non-trivial Berge k-cycle* is a family of sets $e_1, e_2, \ldots, e_k$ such that $e_1 \cap e_2, e_2 \cap e_3, \ldots, e_k \cap e_1$ has a system of distinct representatives and $e_1 \cap e_2 \cap \cdots \cap e_k = \emptyset$. In the case that all the sets e_i have size three, let $\mathcal{B}_k$ denotes the family of all non-trivial Berge k-cycles. The *Ramsey numbers* $R(t, \mathcal{B}_k)$ denote the minimum n such that every n-vertex 3-uniform hypergraph contains either a non-trivial Berge k-cycle or an independent set of size t. We prove

$$R(t, \mathcal{B}_{2k}) \leq t^{1+\frac{1}{2k-1}+\frac{4}{\sqrt{\log t}}}$$

and moreover, we show that if a conjecture of Erdős and Simonovits on girth in graphs is true, then this is tight up to a factor $t^{o(1)}$ as $t \to \infty$. (Received August 16, 2021)