1154-05-1275 **Linyuan Lu** and **Zhiyu Wang*** (`zhiyuw@math.sc.edu`). *Find Berge hypergraphs by looking at the shadow.*

For a fixed set of positive integers R, we say $\mathcal{H}$ is an R-uniform hypergraph, or R-graph, if the cardinality of each edge belongs to R. For a graph $G = (V, E)$, a hypergraph $\mathcal{H}$ is called a *Berge-G*, denoted by BG, if there is an injection $i\colon V(G) \to V(\mathcal{H})$ and a bijection $f\colon E(G) \to E(\mathcal{H})$ such that for all $e = uv \in E(G)$, we have $\{i(u), i(v)\} \subseteq f(e)$. We present some recent results about extremal problems on Berge hypergraphs from the perspectives of the shadow graph. In particular, we define variants of the Ramsey number and Turán number in Berge hypergraphs, namely the *cover Ramsey number* and *cover Turán number*, and show some general lower and upper bounds on these variants. We also determine the cover Turán density of all graphs when the uniformity of the host hypergraph equals to 3. These results are joint work with Linyuan Lu. (Received September 14, 2019)