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Sean English, Pamela Gordon, Nathan Graber, Abhishek Methuku and Eric C Sullivan* (eric.2.sullivan@ucdenver.edu). *Saturation of Berge Hypergraphs.*

Abstract: Let H be a hypergraph, and G be a simple graph on the same vertex set. We say H is *Berge- G* if there exists a bijection $f : E(G) \rightarrow E(H)$ such that for each $e \in E(G)$, we have $e \subset f(e)$. If there exists a subhypergraph of H that is *Berge- G* we say that H contains G , otherwise H is said to be *G -free*. A hypergraph, H is *Berge- G -saturated* if H does not contain G but $H + e$ contains G for every $e \notin E(H)$. The *Berge-saturation number*, denoted $B\text{-sat}(H, G)$, is the minimum number of edges in a hypergraph H such that H is G -saturated.

In this talk we will discuss the Berge-saturation number for several classes of graphs and draw comparisons between Berge-saturation and saturation in the traditional graph sense. (Received September 13, 2019)