

## Saturation for Berge Hypergraphs

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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  $\text{B-sat}(H, G)$ , 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.

This abstract is for a talk to be given in the session on research from the GRWC.