

Maximal and minimal chains of graph and hypergraph parameters

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The standard, well-studied, well-known chain of parameters $ir(G) \leq \gamma(G) \leq i(G) \leq \beta(G) \leq \Gamma(G) \leq IR(G)$ arises from the observations that an independent set is maximally independent if and only if it is dominating, and a dominating set is minimally dominating if and only if it is irredundant. We observe that these parameters are defined relative to the edge set $E(G)$, and we consider how other parametric chains can arise. In particular, we consider two natural extensions of the concept of independence and the resulting chains.

The last time I met with Pete in person, we decided we needed to finish this research and publish it. In memory of a man who meant so much to me, professionally and personally, this talk represents the last research we did together.

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