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Current Trends in Hypergraph Burning

Hypergraph burning is a relatively new model for the spread of influence throughout a complex network. We introduce the concept of a cover sequence in a hypergraph, and use it to analyze the “lazy hypergraph burning” model. In particular, we show that a lazy burning set and a cover sequence are equal and opposite concepts, and hence obtain a new characterization of lazy hypergraph burning. Using this new methodology, we improve several of the best known bounds on the lazy burning number of a hypergraph. Finally, we make use of a common dual construction to solve lazy hypergraph burning for all 2-regular hypergraphs.