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*Bounds and algorithms for graph burning*

Graph burning models the spread of contagion in a network. The *burning number* of a graph  $G$ , written  $b(G)$ , measures the speed of the contagion. The *Graph Burning Conjecture*, which states that  $b(G) \leq \lceil \sqrt{n} \rceil$  for a connected graph of order  $n$ , remains open. We prove the conjecture for spider graphs.

Computing the burning number is NP-hard even for spiders and path forests. We present new approximation algorithms for graph burning, giving an approximation ratio of 3 for general graphs. We present an algorithm for trees with approximation ratio 2, and consider approximation schemes on path forests.