Strong matching preclusion of (n, k)-star graphs

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The strong matching preclusion number of a graph is the minimum number of vertices and edges whose deletion results in a graph that has neither perfect matchings nor almost-perfect matchings. This is an extension of the matching preclusion problem that was introduced by Park and Ihm. The generalized (n, k)-star graph was introduced to address scaling issues of the star graph, and it has many desirable properties. In this talk, we find the strong matching preclusion number of (n, k)-star graphs and to categorize all optimal strong matching preclusion sets of these graphs. Since bipartite graphs generally have low strong matching preclusion numbers, we assume that $k \leq n - 2$.

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