

## 分数k-因子临界图的条件

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## Conditions of a graph being fractional k-factor-critical

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摘要 设G是一个连通简单无向图, 如果删去G的任意k个顶点后的图有分数完美匹配, 则称G是分数k-因子临界图. 给出了G是分数k-因子临界图的韧度充分条件与度和充分条件, 这些条件中的界是可达的, 并给出G是分数k-因子临界图的一个关于分数匹配数的充分必要条件.

关键词: [分数完美匹配](#) [分数k-因子临界图](#) [韧度](#) [分数匹配数](#)

Abstract: Let  $G$  be a connected undirected simple graph. If the remaining subgraph still has a fractional perfect matching after deleting any  $k$  vertices of  $G$ , the graph  $G$  is said to be fractional  $k$ -factor-critical. This paper gives sufficient conditions in terms of the toughness and the degree sum for a graph  $G$  to be fractional  $k$ -factor-critical. In some sense, we prove that the conditions are best possible. Besides, we give a necessary and sufficient condition in terms of the fractional matching number for a graph  $G$  to be fractional  $k$ -factor-critical.



Keywords: [fractional perfect matching](#), [fractional k-factor-critical](#), [toughness](#), [fractional matching number](#)

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