

EXTENDABLE STRUCTURES IN GRAPHS

by

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ABSTRACT

A general question which has generated considerable interest in various settings in graph theory is:

When can a subgraph having certain properties be *extended* to a *larger* subgraph having the same properties?

We report on progress in three specific cases:

- (1) When does a "small" matching extend to a maximal (or perfect) matching?
- (2) When does an independent set of vertices always extend to a maximum such set?
- (3) When does a cycle extend to a 2-factor?