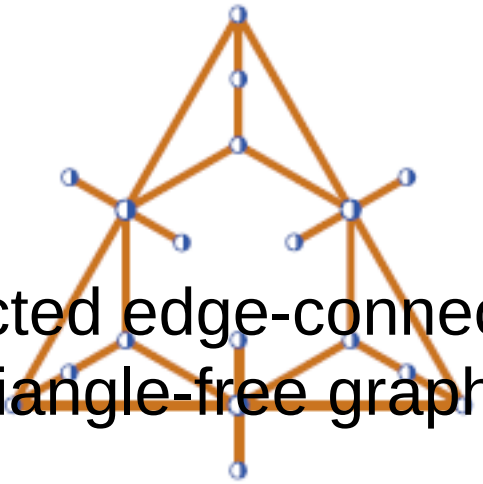
Bled'11 - 7th Slovenian International Conference on Graph Theory

Contribution ID : 66



k-restricted edge-connectivity in triangle-free graphs

Content :

Let G be a λ_k-connected graph. G is called λ_k-optimal, if its k-restricted edge-connectivity $\lambda_k(G)$ equals its minimum k-edge degree. G is called super-λ_k if every λ_k-cut isolates a connected subgraph of order k.

Firstly, we will introduce a lower bound on the order of 2-fragments in triangle-free graphs that are not λ_2-optimal. Secondly, we present an Ore-type condition for triangle-free graphs to be λ_3-optimal. Thirdly, we prove a lower bound on the order of k-fragments in triangle-free λ_k-connected graphs, and use it to show that triangle-free graphs with high minimum degree are λ_k-optimal and super-λ_k.

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Session classification : --not yet classified--

Track classification : Coloring, independence and forbidden subgraphs

Type : Oral presentation