Odd Edge Connectivity, Parity Subgraphs, Flows

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Abstract

The odd-edge-connectivity of a graph G, denoted by $\lambda_o(G)$, is the size of the smallest odd edge-cut of G. We prove every odd-$(2k+1)$-connected graph has k edge-disjoint parity subgraphs, the flow index of every odd-7-connected graph is less than 4. We also prove if $\lambda_o(G) \geq 4\lceil \log_2 |V(G)| \rceil$, then G admits a nowhere-zero 3-flow.