

The signature of two generalization of line graphs

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The signature $s(G)$ of a graph G is defined as the difference between its positive inertia index and negative inertia index. In 2013, H. Ma et al. ([?]) conjectured that $-c_3(G) \leq s(G) \leq c_5(G)$ for an arbitrary simple graph G , where $c_3(G)$ denotes the number of cycles in G of length 3 modulo 4, $c_5(G)$ denotes the number of cycles in G of length 1 modulo 4. In this paper, we prove that this conjecture holds for claw-free graphs and graphs with least eigenvalue ≥ -2 .