HAMILTONIAN PROPERTIES OF COMPLEMENTS OF LINE GRAPHS

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ABSTRACT. Let $G = (V,E)$ be a simple graph. The complement of the line graph of G, denoted by $\overline{L(G)}$, has vertex set E, two vertices e_1 and e_2 are adjacent in $\overline{L(G)}$ if e_1 and e_2 are not incident in G. Let P be any of the properties: Hamiltonian, traceable, Hamilton-connected, Hamilton-laceable, and pancyclic. I will characterize graphs such that the complements of their line graphs have property P.

Moreover, these characterizations lead to linear recognition algorithms.