

ASTEROIDAL QUADRUPLES IN NON ROOTED PATH GRAPHS

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Abstract

A directed path graph is the intersection graph of a family of directed subpaths of a directed tree. A rooted path graph is the intersection graph of a family of directed subpaths of a rooted tree. Rooted path graphs are directed path graphs. Several characterizations are known for directed path graphs: one by forbidden induced subgraphs and one by forbidden asteroids. It is an open problem to find such characterizations for rooted path graphs. For this purpose, we are studying in this paper directed path graphs that are non rooted path graphs. We prove that such graphs always contain an asteroidal quadruple.

Keywords: clique trees, rooted path graphs, asteroidal quadruples.

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