Discussiones Mathematicae
Graph Theory 41 (2021) 559–587
doi:10.7151/dmgt.2209

REMOVABLE EDGES ON A HAMILTON CYCLE OR OUTSIDE A CYCLE IN A 4-CONNECTED GRAPH[1]

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Abstract

Let G be a 4-connected graph. We call an edge e of G removable if the following sequence of operations results in a 4-connected graph: delete e from G; if there are vertices with degree 3 in $G-e$, then for each (of the at most two) such vertex x, delete x from $G-e$ and turn the three neighbors of x into a clique by adding any missing edges (avoiding multiple edges). In this paper, we continue the study on the distribution of removable edges in a 4-connected graph G, in particular outside a cycle of G or in a spanning tree or on a Hamilton cycle of G. We give examples to show that our results are in some sense best possible.

Keywords: 4-connected graph, removable edge, fragment, atom.

2010 Mathematics Subject Classification: 05C40, 05C38, 05C75.

[1]Research supported by China Scholarship Council (No. 201606225054).
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1. Introduction

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Received 11 July 2018
Revised 23 December 2018
Accepted 9 February 2019