Note on robust critical graphs with large odd girth. (English) Zbl 1215.05072 Discrete Math. 310, No. 3, 499-504 (2010).

Summary: A graph $G$ is $(k+1)$-critical if it is not $k$-colourable but $G-e$ is $k$-colourable for any edge $e \in E(G)$. In this paper we show that for any integers $k \geq 3$ and $l \geq 5$ there exists a constant $c = c(k, l) > 0$, such that for all $\tilde{n}$, there exists a $(k+1)$-critical graph $G$ on $n$ vertices with $n > \tilde{n}$ and odd girth at least $\ell$, which can be made $(k-1)$-colourable only by the omission of at least $cn^2$ edges.

MSC:
05C15 Coloring of graphs and hypergraphs
05C12 Distance in graphs
05C35 Extremal problems in graph theory

Keywords:
graph; colour critical; odd girth

Full Text: DOI

References:

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