



SEMINARIUM MATEMATYKA DYSKRETNA

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Cycle lengths in graphs of given minimum degree

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We present minimum degree conditions which forces a graph to contain a cycle of length ℓ modulo k for fixed k and ℓ . Our outcomes improve the results of Gao, Huo, Liu and Ma [2]. Consequently, we determine the maximum number of edges in a graph that does not contain a cycle of length 0 modulo k for odd k and in a graph that does not contain a cycle of length 2 modulo k also for odd k .

- [1] Y. Bai, A. Grzesik, B. Li, M. Prorok, Cycle lengths in graphs of given minimum degree, arXiv:2511.03085.
- [2] J. Gao, Q. Huo, C. Liu, J. Ma, A unified proof of conjectures on cycle lengths in graphs, *International Mathematics Research Notices* (2022) (10) 7615–7653.