Inducibility of Short Cycles

Axel Brandt, CU Denver, Bernard Lidický*, Iowa State University, Florian Pfender CU Denver

In 1975, Pippinger and Golumbic conjectured that in graphs the maximum induced density of a $k$-cycle is $\frac{k!}{k^{k-2}}$ when $k \geq 5$. The case of $k = 5$ was solved recently by Balogh, Hu, L., Pfender. We show that it is possible to extend the result to other small $k$. The results are obtained using Flag algebras and stability.

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