Inducibility of Short Cycles

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In 1975, Pippinger and Golumbic conjectured that in graphs the maximum induced density of a k-cycle is $\frac{k!}{k^k?k}$ 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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