An improved upper bound for the multicolour Ramsey number of odd cycles

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We show that the k-colour Ramsey number of an odd cycle of length $2\ell+1$ is at most $(4\ell)^k \cdot k^{k/\ell}$. This proves a conjecture of Fox and is the first improvement in the exponent that goes beyond an absolute constant factor since the work of Bondy and Erdős from 1973.

Joint work with Maria Axenovich, Wouter Cames van Batenburg, Lukas Michel and Mathieu Rundström.