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The prime factorization of binomial coefficients

Let us suppose that n and k are positive integers with $n \geq 2k$, and factor the binomial coefficient $\binom{n}{k} = U \cdot V$, where U is comprised of those primes not exceeding k and V contains those primes exceeding k . Then an old theorem of Ecklund, Eggleton, Erdős and Selfridge asserts that $V > U$, with at most finitely many exceptions (all of which are conjectured to be known). We will take a rather different approach to this problem than that of Ecklund, Eggleton, Erdős and Selfridge, enabling us to resolve their conjecture in two of the three remaining cases.

This is joint work with M. Filaseta and O. Trifonov.