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Essential dimension of symmetric groups in prime characteristic

Computing the essential dimension of the symmetric group S_n is a long-standing open problem, originating in the work of Felix Klein. It is known that this number lies between $\lfloor n/2 \rfloor$ and $n - 3$ for any $n \geq 5$. The exact value is not known for any $n \geq 8$, though it is expected to be $n - 3$ for every $n \geq 5$, at least in characteristic 0. The main result of this talk, based on joint work with Oakley Edens, is that for odd prime p there are infinitely many positive integers n such that the essential dimension of S_n is $\leq n - 4$ in characteristic p .