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*Modular zeros in the character table of the symmetric group*

In 2017, Miller conjectured, based on computational evidence, that for any fixed prime  $p$  the density of entries in the character table of  $S_n$  that are divisible by  $p$  goes to 1 as  $n \rightarrow \infty$ . I'll describe a proof of this conjecture, which is joint work with K. Soundararajan, along with proofs of some earlier results for small primes. I will also discuss the still open problem of determining the asymptotic density of zeros in the character table of  $S_n$ , where it is not clear from computational data what one should expect.