

Recent progress on Burgess bounds

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Many problems in analytic number theory call for bounding character sums involving multiplicative characters, additive characters, or both. This is difficult to do if the sums are “short” that is, sum over an interval of length at most the square-root of the modulus. In the 1960’s Burgess developed a method for bounding short multiplicative character sums, leading to a celebrated sub-convexity bound for Dirichlet L -functions. This talk will describe new work of several people that produces Burgess bounds for short character sums in more general settings.

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