Colloquium

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On The Davenport Constant

Abstract:

Let G be a finite abelian group. The Davenport constant D(G) of G is defined to be the smallest positive integer d such that every sequence of d elements in G contains a nonempty subsequence with the product of all its elements equal to 1 the identity of G. The problem of finding D(G) was proposed by H. Davenport in 1966, and it was pointed out that D(G) is connected to the algebraic number theory in the following way. Let K be an algebraic number field and G be its class group. Then D(G) is the maximal number of the prime ideals (counting multiplicity) that can occur in the decomposition of an irreducible integer in K. In this talk, we will review some known results regarding the Davenport constant of abelian groups and discuss a few methods which can be used to find the exact value of D(G). Some recent new results will also be presented.