

Colloquium

On Cyclotomic Numbers and Their Uses

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摘 要：

Cyclotomic numbers describe the sizes of intersections between certain subsets within a finite field. These numbers emerged from Gauss's investigation into the constructibility of regular polygons, and were subsequently studied by Dickson in relation to Waring's problem. Building on these early developments, research on cyclotomic numbers has grown substantially, with applications in areas such as combinatorial design, cryptography, and information theory. In this talk, we will introduce these numbers, explore related problems, and highlight some of their applications.

