

Abstract:

APN (Almost Perfect Nonlinear) functions on finite fields of characteristic two have useful properties and applications in cryptography, coding theory, finite geometry and so on. On the other hand, APN functions for odd characteristic have quite different algebraic properties. GAPN (Generalized APN) functions were defined to satisfy some generalizations of basic properties of APN functions for even characteristic [K and Tsujie, FFA vol. 47, 2017]. In this talk, we will introduce monomial GAPN functions and their partial classification. This study is based on a joint work with Shuhei Tsujie (Hokkaido University).