

Abstract

The objectives of this slide are to survey and extend results on several classes of asymptotically good quasi-twisted Euclidean LCD and self-dual codes with low index, namely double circulant codes, double negacirculant codes, four circulant codes and four negacirculant codes over finite fields. For a given length, we summarize the exact enumeration formulae of Euclidean self-dual and LCD codes and supplement some expansion results. The existence of asymptotically good quasi-twisted codes relies on factorizations of special binomials over finite fields; the existence of these factorizations, in turn, with the assumption of Artin primitive root conjecture, or in some cases can be derived unconditionally by using Dickson polynomials.