

Speaker: Salah Aly (Computer Science Department, TAMU)  
Title: Nonbinary Quantum BCH Codes

Abstract:

We derive two families of quantum stabilizer codes from the classical BCH codes. The constructions require that the classical codes contain their Euclidean or Hermitian dual codes. We show that a primitive, narrow-sense BCH code contains its dual code if and only if its designed distance is small. We derive closed form solutions for the dimension and minimum distance of such codes.

This is joint work with Andreas Klappenecker and Pradeep Sarvepalli.