Michigan Math Club

Thursday at 4pm in East Hall 2851
(Nesbitt Room) Free Pizza and Pop

Finite Fields and Reed-Solomon Codes

Kyle Hoffman

NSA
Abstract for 17 Nov. 2011

All communication systems have noise, so the receiver gets something a little different from what is sent. Modern communications systems compensate for this using error correction. The basic problem is to find an efficient way to correct many errors. One of the most popular methods uses Reed-Solomon error correcting codes, based on finite fields. In this talk I will explain finite fields and Reed-Solomon codes from scratch, and sketch the Berlekamp-Massey decoding algorithm.