



Algebra and Number Theory Seminar

Title: On the Pseudocodeword Redundancy

Speaker: Dr Jens Zumbraegel

Date: Mon 8th February 2010 at 4:00PM

Location: Mathematical Sciences Seminar Room

Abstract: We define the AWGNC, BSC, and max-fractional pseudocodeword redundancy of a code as the smallest number of rows in a parity-check matrix such that the corresponding minimum pseudoweight is equal to the minimum Hamming distance. We show that most codes do not have a finite pseudocodeword redundancy. We also provide bounds on the pseudocodeword redundancy for some families of codes, including codes based on designs.

Joint work with Mark F. Flanagan and Vitaly Skachek.