Abstract:
A decoding algorithm for algebraic geometry codes is proposed, using the discrete Fourier transform and Berlekamp-Massey-Sakata algorithm. Meanwhile Garcia and Stichtenoth explicitly constructed a tower of algebraic curves which attains the upper bound of Drinfeld-Vladut bound. In this talk, I present a method to reduce the computational complexity of the discrete Fourier transform for the algebraic geometry codes defined by Garcia-Stichtenoth tower. A key of this reduction is to give affine rational points for Garcia-Stichtenoth tower. This is a joint work with H. Matsui.