Master's Thesis

List decoding for multivariate polynomial codes

Multivariate polynomials have been attracting increasing interest in constructing codes with repair capabilities by accessing only a small amount of available symbols, which is required to build failure-resistant distributed storage systems.

List decoding is a technique to decode beyond half the minimum distance and has shown its advantages for codes based on univariate polynomials.

In this thesis, the student is expected to learn from the literature about the list decoding algorithm for multivariate polynomial codes and develop new decoding techniques upon it.

Advisors

Hedongiang Liu