

Master's Thesis

Simulation and performance improvement of identification codes

Identification is a communication scheme that allows rate doubly exponential in the blocklength, with the tradeoff that identities cannot be decoded (as messages do) but can only be verified. The double exponential growth presents various challenges in the finite regime: there are heavy computational costs introduced at the encoder and decoder and heavy trade-offs between the error and the codes sizes.

The ultimate goal is to find a fast, reliable implementation while still achieving large code sizes.

Your task will be implementing and testing new ideas toward this goal. The coding will be in Matlab. Some existing code needs conversion from Sagemath to Matlab.

This work can accommodate multiple students.

The working language will be in English.

Environment: we collaborate with LTI. At LNT and LTI there is currently a lot of funding for research in identification. Therefore you will find a large group of people that might be available for discussion and collaboration.

Prerequisites

Nachrichtentechnik 2

Advisors

Roberto Ferrara