

Einladung

zum

Mathematischen Kolloquium

Am Donnerstag, dem 12. Juli 2018, spricht

Frau Prof. Dr. Anna-Lena Horlemann,
Fachbereich für Mathematik und Statistik
Universität St. Gallen, Schweiz
Gast am Lehrstuhl für Wirtschaftsmathematik
bei Herrn apl. Prof. Dr. Sascha Kurz

über das Thema

Introduction to (Network) Coding

Abstract

Coding theory deals with the question how to make digital data more resilient against noise (naturally occurring errors) during communication. We encode the data before sending it by adding some redundancy which can be used for error detection and correction at the receiver. One of the main research goals is to find ways to add redundancy in a smart way, such that the number of correctable errors is as large as possible, while keeping the redundancy as low as possible. Many classical results in this regard use algebraic tools like polynomials or vector spaces over finite fields. In contrast to classical coding theory, where we study a communication channel from one sender to one receiver, the (multicast) network coding model has one sender and many receivers, all of which want to receive the same message from the sender. In this model, the noise behaves differently and it turns out that one can improve the tradeoff of redundancy and error correction by designing new codes for this setup, instead of using the known classical codes.

In this talk we will give an introduction to the topic and an overview of important results for both classical coding theory and network coding theory.

Beginn: 16.30 Uhr (Kaffee/Tee ab 16.00 Uhr im Seminarraum 748)

Ort: Hörsaal H 19, Gebäude Naturwissenschaften II, Universitätsgelände

gez. V. Ulm