FoE Information, Communication and Computing

FoE-Kolloquium

Fr 21.10.2016, 14:00

Hörsaal BE01, Steyrergasse

Infinite-Dimensional Phase Retrieval

Philipp Grohs

(Univ. Wien)

Phase retrieval refers to restoring a signal from intensity measurements only and is important in several application areas ranging from X-ray crystallography and microscopy to audio processing and deep learning. Due to the substantial amount of missing information, phase retrieval problems are extremely challenging to solve numerically.

We shed some light on the origin of these difficulties and we propose a novel paradigm of weaker stability which actually achieves stable phase retrieval in several applications.

This is joint work with R. Al-Aifari (ETH Zurich), I. Daubechies (Duke University) and R. Yin (Duke University)

Oswin Aichholzer, Mihyun Kang, Kay Römer.