Tobias Kuna (Reading)

Realizability of correlation functions and applications

Abstract

The realizability problem and the infinite dimensional truncated moment problem are closely related. The realizability problem tries to construct random point distributions which give rise to pre-given characteristics like correlations. I will shortly introduce the results which can be obtained using techniques from the moment problem and point out the level of challenge to go ahead. As a reaction to this challenge, I will sketch some well established areas of applications for the realisability problems and will use these to motivate alternative questions and then present corresponding results and challenges motivated by them.