

29/11/2023

InterCity - seminar

Neuchâtel - Bern - Konstanz - Lugano

25

Time	Speaker	Talk
15:00-15:50	<b>Stevan Gajović (CUNI, Prague)</b>	<b>The method of Chabauty and Coleman and rational points on curves</b>  In this talk, we will discuss the method of Chabauty and Coleman, which is powerful for determining rational points on curves satisfying a certain rank condition. We explain how to use the method to obtain a finite and computable set of points on the curve that contains the set of rational points. In particular, it gives an upper bound on the number of the set of rational points. This bound is usually a strict inequality. We briefly discuss how to construct a family of hyperelliptic curves of any genus for which, if we can apply the method, the set of rational points attains the bound.
15:50-16:10	<i>break and informal discussion</i>	
16:10-17:00	<b>Dimitrii Pavlov (MPI, Leipzig)</b>	<b>Algebraic geometry of quantum graphical models</b>  Algebro-geometric methods have proven to be very successful in the study of graphical models in statistics. In this talk I will discuss a similar algebraic approach to their quantum counterparts. These quantum graphical models are families of quantum states satisfying certain locality or correlation conditions encoded by a graph. I will present several ways to associate an algebraic variety to a quantum graphical model. The classical graphical models can be recovered from most of these varieties by restricting to quantum states represented by diagonal matrices. Fundamental properties of these varieties and algorithms to compute their defining equations will also be discussed. I will conclude with an overview of quantum information projections to quantum exponential families defined by graphs and a quantum analogue of Birch's Theorem. This is joint work with Eliana Duarte and Maximilian Wiesmann.
17:00-18:00	<i>break and informal discussion</i>	

For further informations please refer to the seminar's webpage

<https://mathsites.unibe.ch/intercity-seminar/>

or contact the organisers:

Emanuele Delucchi (Lugano) — Jan Draisma (Bern) — Elisa Gorla (Neuchâtel) — Mateusz Michalek (Konstanz)