

25/11/2016

InterCity - seminar

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Neuchâtel - Fribourg/Freiburg
Bern

Time	Speaker	Talk
14:00	Farhad Babae (Fribourg)	Applications of tropical currents Abstract: The space of currents on a manifold is defined as the topological dual of the space of forms with compact support. The currents, therefore, generalize the notion of analytic subsets. This allows to assign a closed current on $(\mathbb{C}^*)^n$ to every tropical cycle in \mathbb{R}^n . Such objects are called "complex tropical currents" and provide a bridge between tropical geometry and the theory of currents. In this talk I will introduce complex tropical currents and, in particular, explain the induced intersection theory on tropical cycles from the intersection theory of tropical currents.
15:30	Alessio Caminata (Neuchâtel)	Counting free summands in Frobenius and symmetric powers Abstract: A recurring procedure used in algebraic geometry to understand a rather complicated object is to attach to it a numerical invariant which captures the properties we want to investigate. A classical example is given by the intersection multiplicity of a singular point of an algebraic variety, which gives a rough measure of the complexity of the singularity. To study singularities in positive characteristic, one can look at the asymptotic splitting behaviour of the local ring corresponding to the singularity viewed as a module over itself via powers of the Frobenius homomorphism. This leads to the definition of F-signature, which has received a lot of attention in recent years. In an attempt to develop a characteristic-free notion, we introduce the differential symmetric signature of a local (or graded) ring, which is defined by looking at the asymptotic splitting behavior of the reflexive symmetric powers of the module of Kähler differentials of the ring. We study this new invariant and compare it with the F-signature in several examples, such as quotient singularities, cones over elliptic curves, and normal hypersurfaces with an isolated singularity. The talk is based on a joint work with H. Brenner.

The talks will take place in room B6, building of ExWi, Sidlerstrasse 5, University of Bern.

For further informations please refer to the seminar's webpage

www.combinatorialmethods.ch/intercity/

or contact the organisers:

Emanuele Delucchi (Fribourg) — Jan Draisma (Bern) — Elisa Gorla (Neuchâtel)