UNIVERSITÄT SALZBURG

SALZBURG MATHEMATICS COLLOQUIUM
Summer 2017

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„Differences of convex bodies and Baire category"
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Abstract:

In the classical theory of convex bodies, Minkowski addition plays a central role. The vector sum of two convex bodies in Euclidean space is again a convex body, and with this addition, the set of convex bodies becomes a commutative semigroup with cancellation law. The formal embedding of this semigroup into a group is easy. It is not so easy to associate intuitive geometric objects with the resulting differences of convex bodies. While special cases, such as planar polygons or sufficiently smooth bodies with curvature restrictions, provide no problems, we are more interested in the 'generic' case, that is, in properties that point sets representing differences of convex bodies exhibit for 'most' pairs of convex bodies.

As often in convexity, this is interpreted in the sense of Baire category. We explain this, give some examples, and then describe the surprising irregularity of the differences of most pairs of convex bodies.

Thursday, **15:00-15:45**
Hörsaal 414, 1. Stock