DYNAMICS ON LATTICE PANOV PLANES AND APPLICATIONS

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Abstract. A few years ago (billiard) dynamics on infinite surfaces became a focused research object. To say anything on the dynamics usually a mix of topology, measure theory and dynamics is required.

We construct dense orbits on Panov planes, those are complex planes with pillow cases attached periodically, and apply the results to the well studied wind-tree model. Interestingly the genus 2 lattice surface classification by McMullen plays a major role and in fact gives the Panov planes with large symmetry groups.

This is a report on ongoing research with Chris Johnson.