

# Periodic paths on the pentagon

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Mathematicians have long understood periodic trajectories on the square billiard table, which occur when the slope of the trajectory is rational. In this talk, we will explain my joint work with Samuel Lelièvre on periodic trajectories on the regular pentagon, describing their geometry, symbolic dynamics, and group structure. The periodic trajectories are very beautiful, and some of them exhibit a surprising dense but not equidistributed behavior.