سمینار هندسه و توپولوژی

Hyperbolicity in Polytopal Billiards with a Contractive Reflection Law

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Abstract:

Billiards are dynamical systems describing the motion of a point passing through a region with piecewise smooth boundary. The point moves about at constant velocity unless there is a collision with boundary and the direction of velocity will change with the reflection law (The angle of reflection is equal to the angle of incidence). By modifying the reflection law in this way that the reflection angel is contracted by a contraction law, we are interested in seeing the hyperbolicity in these non-standard billiard dynamics. In this talk we will first review the hyperbolicity of polygonal billiards. Then we discuss the difficulties of the hyperbolicity of polytopal billiards.