

1173-37-110

Xin Jin (xin.jin@bc.edu), Chestnut Hill, MA 02467, and **Pengfei Zhang***
(pengfei.zhang@ou.edu), Norman, OK 73019. *Homoclinic intersections and topological entropy
for lemon billiards.*

In this talk we will consider the dynamical properties of lemon billiards. Recall that a lemon table $Q(b)$ is the intersection of two unit disks, where $b \in (0, 2)$ measures the distance between the centers of the two disks. We show that for a range of parameters b , there is an invariant domain in the phase space of lemon billiards, in which there are hyperbolic periodic orbits with transverse homoclinic intersections. In particular, such lemon billiards has positive topological entropy. This is a joint work with Dr. Jin. (Received September 17, 2021)