1078-37-228 **Robert G Niemeyer*** (niemeyer@math.ucr.edu), 900 Big Springs Rd., Surge Building, Dept. of Mathematics, Riverside, CA 92521, and **Michel L Lapidus** (lapidus@math.ucr.edu), 900 Big Springs Rd., Surge Building, Dept. of Mathematics, Riverside, CA 92521. *On the properties of Koch snowflake prefractal billiard tables.*

In this talk, we will examine the properties of sequences of compatible orbits of Koch snowflake prefractal billiards, the corresponding geodesic flows on the associated flat surfaces and the associated groups of affine automorphisms of each flat surface (more generally known as the corresponding Veech groups). In particular, we discuss the dichotomous nature of a sequence of compatible orbits, finitely stabilizing periodic orbits and the potential for what we call infinitely stabilizing periodic orbits. In addition to this, we examine properties of the associated Veech group and discuss conjectures on the existence of a fractal flat surface and the corresponding Veech group. (Received December 09, 2011)