

1077-37-29

Hee Oh* (heehoh@math.brown.edu), Mathematics department, Brown University, Providence, RI 02912. *Apollonian packings, Fractal geometry and Dynamics on hyperbolic manifolds.*

Apollonian packings are circle packings in the plane constructed from three mutually tangent circles via an old theorem of Apollonius of Perga (262-190 BC). They give rise to one of the first examples of a fractal in the plane. Natural questions are how circles in an Apollonian packing are distributed in the plane. We discuss recent results on the distribution of circles in Apollonian packings in fractal geometric terms and explain how the dynamics of a Kleinian group is related. Dynamics of infinite volume hyperbolic manifolds is a challenging area with many natural but unsolved problems. We will discuss some of them toward the end of the lecture. (Received September 22, 2011)