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Alex V Kontorovich* (alexk@math.brown.edu), Department of Mathematics, Brown University, 151 Thayer Street, Providence, RI 02912, and **Hee Oh**. *Apollonian Circle Packings and Horospherical Flows on Hyperbolic 3-Manifolds*.

We prove an asymptotic formula for the number of circles in an Apollonian packing of bounded curvature. Using the affine linear sieve, we give sharp upper bounds for the number of circles of prime curvature, and the number of "twin prime" tangent circles. The main ingredient of our proof is the equidistribution of long horospherical flows in the unit tangent bundle of an infinite volume hyperbolic 3-manifold, under the assumption that the Hausdorff dimension of its limit set exceeds one. (Received January 08, 2009)