Alex V Kontorovich\* (alexk@math.brown.edu), Department of Mathematics, Brown University, 151 Thayer Street, Providence, RI 02912, and Hee Oh (heeoh@math.brown.edu), Department of Mathematics, Brown University, 151 Thayer Street, Providence, RI 02912. Orbital Counting for Thin Groups and the Affine Linear Sieve.

We will discuss recent progress on the Affine Linear Sieve, which finds integers with a bounded number of prime factors inside a set generated by a non-linear group action. The methods involve the Patterson-Sullivan results on Hausdorff dimensions of limit sets, expander graphs, and spectral methods for infinite-volume hyperbolic surfaces. (Received August 23, 2008)