Hausdorff dimension and non-uniquely ergodic interval exchange transformations.

Jon Chaika, University of Utah

Interval exchange transformations are generalizations of rotations of the circle that exhibit new behavior. For example, a rotation of the circle has a dense orbit if and only if it is by an irrational multiple of the circumference if and only if every orbit is uniformly distributed. In contrast, there are interval exchange transformations that have dense orbits, but where the orbit of a point is not uniformly distributed. Masur and Veech independently showed that these example have measure zero. It is also known that they have positive Hausdorff dimension in the parametrizing space of interval exchanges. This talk will discuss the Hausdorff dimension of this set and also the Hausdorff dimension of ergodic measures that are singular with respect to Lebesgue in some examples. This talk will include joint work with J. Athreya and H. Masur.