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Howard Masur* (masur@math.uchicago.edu), Department of Mathematics, 57384S. University, Chicago, IL 60637, and **Yitwah Cheung** and **Pascal Hubert**. *Billiards in rectangles with slits*.

Let R be a $1/2$ by 1 rectangle with a horizontal barrier of length α based midway along one of the vertical sides. The dynamics of billiards in this rectangle with barrier was first discussed by Veech forty years ago. For irrational values of α there are directions for the billiard flow such that the flow is minimal but not ergodic. In this talk I will discuss the Hausdorff dimension of this set of directions as a function of the number theory of α . (Received February 28, 2009)