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([zhirenw@psu.edu](mailto:zhirenw@psu.edu)), University Park, PA 16802. *Statistics of escaping trajectories in homogeneous spaces.*

Given a finite volume homogeneous space  $G/\Gamma$  of a higher rank semisimple Lie group of  $G$ , a point  $x$  in the space, and an unit length element  $a$  of the Cartan subgroup  $A$ , we will consider the set of directions in the tangent space at  $x$  for which the outgoing  $a$ -orbit of length  $T$  asymptotically spends at most a portion of measure  $\epsilon T$  near the cusp. The Hausdorff dimension of this set will be at most  $e^{-C\epsilon T}$ , where  $C$  is independent of the choice of  $a$ . This is a joint work with F. Rodriguez Hertz. (Received September 24, 2018)