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**Shahriar Mirzadeh\*** ([shahmir@brandeis.edu](mailto:shahmir@brandeis.edu)), Brandeis Math Dept. MS:050, 415 South St., Waltham, MA 02453. *Dimension estimates for the set of points with non-dense orbit in homogeneous spaces.*

In this talk we study the set of points in a homogeneous space whose orbit escapes the complement of a fixed compact subset. We find an upper bound for the Hausdorff dimension of this set. This extends the work of Kadyrov, where he found an upper bound for the Hausdorff dimension of the set of points whose orbit misses a fixed ball of sufficiently small radius in a compact homogeneous space. We can also use our main result to produce new applications to Diophantine approximation. This is a joint work with Dmitry Kleinbock. (Received January 29, 2016)