

1086-51-328

Viveka Erlandsson* (verlandsson@gc.cuny.edu), The Graduate Center, 365 Fifth Avenue, Room 4208, New York, NY 10016. *The Margulis region and screw parabolic elements of bounded type.*

Given a discrete subgroup of the isometries of n -dimensional hyperbolic space there is always a region kept precisely invariant under the stabilizer of a parabolic fixed point, called the Margulis region. While in dimensions 2 and 3 this region is a horoball, it has in general a more complicated shape due to the existence of screw parabolic elements in higher dimensions. In fact, P. Susskind has shown that in a discrete group acting on hyperbolic 4-space containing a screw parabolic element with irrational rotation, the corresponding Margulis region does not contain a horoball. In this talk we describe the asymptotic behavior of the boundary of the Margulis region when the irrational screw parabolic is of bounded type. As a corollary we show that the region is quasi-isometric to a horoball. Although Y. Kim has shown that two screw parabolic isometries with irrational rotation are not quasi-isometric, this corollary implies that their corresponding Margulis regions (in the bounded type case) are quasi-isometric. (Received August 21, 2012)