

Meeting: 1006, Lubbock, Texas, SS 15A, Special Session on Discrete Groups, Homogeneous Spaces, Rigidity

1006-00-121 **Pralay Chatterjee*** (pralay@math.rice.edu), Department of Mathematics MS 136, 6100 Main St., Rice University, Houston, TX 77005, and **Dave Witte Morris** (Dave.Morris@uleth.ca), Department of Maths and Computer Science, University of Lethbridge, Lethbridge, AB T1K 3M4, Canada. *Divergent torus orbits in homogeneous spaces of rational rank two.*

This is a joint work with Dave Witte Morris. Let \mathbf{G} be a semisimple algebraic \mathbb{Q} -group, let Γ be an arithmetic subgroup of \mathbf{G} , and let \mathbf{T} be an \mathbb{R} -split torus in \mathbf{G} . We prove that if there is a divergent $\mathbf{T}_{\mathbb{R}}$ -orbit in $\Gamma \backslash \mathbf{G}_{\mathbb{R}}$, and \mathbb{Q} -rank $\mathbf{G} \leq 2$, then $\dim \mathbf{T} \leq \mathbb{Q}$ -rank \mathbf{G} . This provides a partial answer to a conjecture by B. Weiss. (Received February 10, 2005)