1077-37-2302 **Tushar Das*** (tushardas.math@gmail.com). *Kleinian Limit Sets in Hilbert Space.*

We develop the theory of discrete groups acting by hyperbolic isometries on the open unit ball of an infinite-dimensional separable Hilbert space. We build appropriate analogs of thermodynamic formalism, ergodic theory and geometric measure theory to study the geometry of limit sets at the sphere at infinity.

The existence of fix-points of isometries and their structure will be discussed. We define the concepts of strongly discrete groups and convex-cobounded groups and characterize them in terms of radial points in the limit set and go on to characterize the groups whose limit sets are compact.

We will sketch some of the ideas that go into proving a generalization of the Bishop-Jones theorem, equating the Hausdorff dimension of the radial limit set with the exponent of convergence of the Poincare series associated to the group.

Classical Schottky groups (both fintely and infinitely generated) provide a rich abundance of examples and time permitting, we present a Sullivan-type Rigidity Theorem for the Schottky class.

This is joint work with Bernd Stratmann (Bremen) and Mariusz Urbanski (UNT). (Received September 22, 2011)