

## **Abstract**

Given a free group acting on hyperbolic space, the classical ping-pong lemma gives sufficient conditions under which the free group action is convex-cocompact. Similarly, in the setting of higher rank Riemannian symmetric spaces, a generalization of the ping-pong lemma (by Dey-Kapovich-Liu) gives sufficient conditions under which a free group action is induced by an Anosov representation. In this talk, I will explain an analog of the generalized Ping-pong lemma that is “direction specific”. This gives rise to the notion of a directed Anosov representation. As a consequence, we find a new method to construct families of primitive stable representations from rank 2 free groups into higher rank Lie groups.