

1116-K6-644 **Srividhya Balaji*** (sbalaji@math.ou.edu), 312 E Boyd St #3, Norman, OK 73069. *Exploration of Quotient Spaces and Group Actions with Application to Visualizing Music.*

Various authors have explored how the mathematical area of geometric topology can be used to visualize musical concepts and shed light on the structure of a musical composition. For example, Tymoczko and others have modeled the set of chords as an orbifold. We explore the definitions of quotient spaces and group actions on spaces with the aim of visualizing Raagas (Modes) in Indian Carnatic Music. A raaga is a melodic scale, which takes a definite set of notes, from the twelve notes in an octave. Extempore raaga elaboration involves the permutation and combination of these notes, which gives rise to an infinite number of patterns. (Received September 09, 2015)