1116-15-1989 **Cody J Griffith*** (cody.griffith94@gmail.com), 19611 E 40th Ave, Denver, CO 80249, and **Aaron Phillip Parker** (aaronparker2319@gmail.com), 2810 Fillmore St, Denver, CO 80205. *An Exploration of Iterative Matrix Transformations.* Preliminary report.

In this presentation, we analyze iterations of matrix transformations and the associated geometry. We have built a Mathematica notebook to help visualize the geometry of each iteration. From there we look at what happens to these iterative matrix transformations in their limit and observe behaviors of the objects being transformed. We make connections from these observations to the Power Method as a means to explain the behavior observed.

We will extend this idea to incorporate matrices that do not satisfy the hypotheses of the Power Method. For example we will explore a process analogous to the Power Method for rectangular matrices through Singular Value Decomposition (SVD) and study possible relationships between the limit of the iterative process and the singular values of the matrix. (Received September 21, 2015)