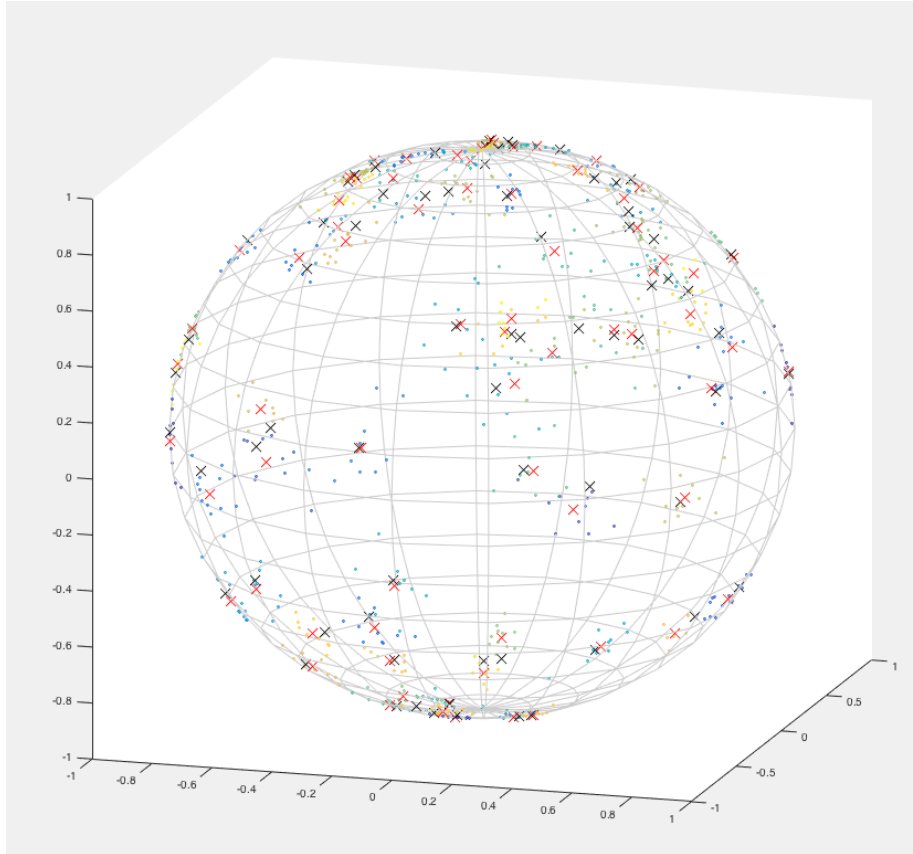


Figure 1: Plot of 70 clusters and means on a 3-D sphere



## Our investigation

In order to test how well the spherical k-means clustering algorithm worked, we constructed a random data set using the Von Mises distribution random sampling function from the MATLAB Circular Statistics Toolbox[?]. We constructed 70 clusters of 10 points each, using random points on the sphere as means and with  $\kappa = 100$ , and then applied the spherical k-means clustering and visualized the results on the unit three dimensional sphere, color coded for each cluster and with estimated means labeled as red  $X$ 's and true means labeled as black  $X$ 's.

Figure 2: Plot of 10 clusters and means on a 3-D sphere

