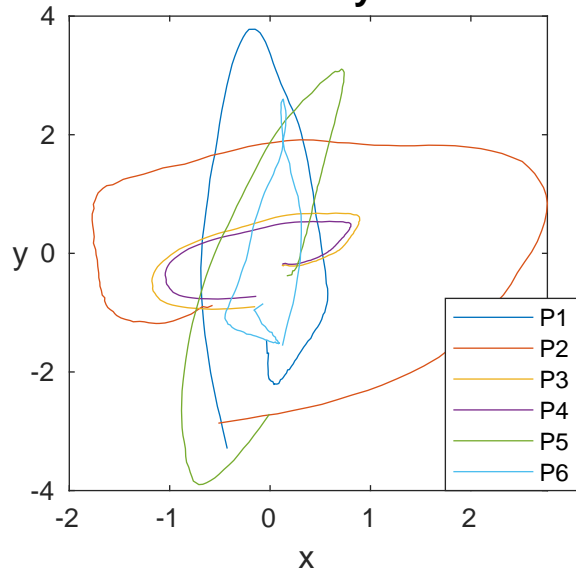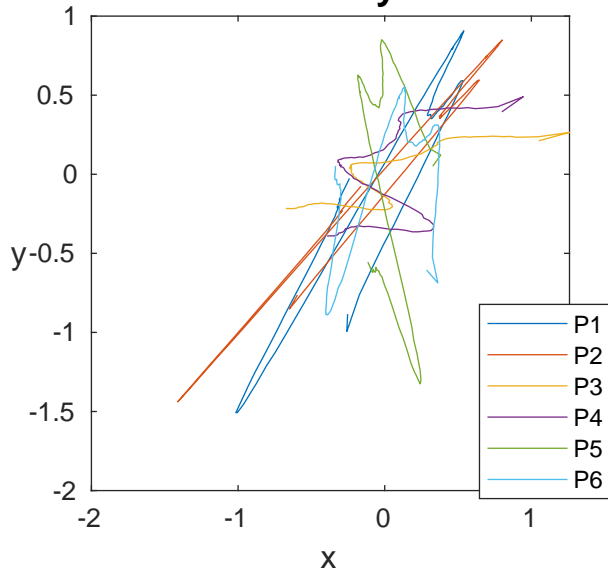Data reconstruction from each community on each dimension