

1067-08-326

Paige E Rinker* (paige.rinker@dartmouth.edu), 6188 Kemeny Hall, Hanover, NH 03755.

Cluster Analysis of Data on Finite Groups and Homogeneous Spaces. Preliminary report.

Generally, the goal of cluster analysis is to uncover commonalities and patterns in large data sets; for rank or voting data, we seek to group similar observed rankings and identify rankings that are prototypical representatives for each group. In 2007, Busse, Orbanz and Buhmann pioneered a new method for the analysis of particular kinds of ranking data. They focused their attention to data on a combination of complete rankings and so-called “top- t ” rankings. Here, we introduce an efficient method for performing cluster analysis of general rank data (i.e. data on combinations of the symmetric group, \mathbb{S}_n , and its quotients), and extend this method to data on other finite groups and their homogeneous spaces which arise naturally in a variety of settings. (Received September 21, 2010)