

# Rank and Sign Methods for Clustered and Multilevel Data

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*Abstract:* Situations involving cluster correlated data are often encountered in practice. A typical example is children clustered into schools. It is usually assumed that observations are possibly correlated within clusters and independent across clusters. Generalizations of classical rank and sign based methods for the case of clustered data have appeared in the literature recently. In this talk, I will provide a brief review on some of this work by focusing mainly on the one-sample estimation and testing problem for univariate and multivariate data. I will then present more details on some recent development dealing with multilevel (or hierarchical) data.