## 1047-62-21 Paul Kidwell\* (kidwell@stat.purdue.edu), West Lafayette, IN 47907, Yi Mao (ymao@ecn.puedue.edu), West Lafayette, IN 47907, and Guy Lebanon (lebanon@cc.gatech.edu), Atlanta, GA 30332. Non-Parametric Modeling and Survey Design for Censored Preference Data.

Statistical models on full and partial rankings of n items are often of limited practical use for large n due to computational consideration. We explore the use of non-parametric models for partially ranked data and derive computationally efficient procedures for their use for large n. The derivations are largely possible through combinatorial and algebraic manipulations based on the lattice of partial rankings. A bias-variance analysis and an experimental study demonstrate the applicability of the proposed method. This estimation procedure finds a ready application to survey question design via selection of the best partial ranking form for eliciting subject preferences. By allowing the question form to vary over partial rankings a smoothing is performed which may reduce both MSE and the cognitive burden associated with providing full rankings. A decision theoretic formulation is then possible in the space of survey cost and optimal estimator form with respect to MSE. (Received November 20, 2008)