Partially linear additive quantile regression in ultra-high dimension

Ben Sherwood

University of Kansas
E-mail: ben.sherwood@ku.edu

Abstract: Partially linear additive quantile regression allows for estimation of a conditional quantile while allowing some predictors to have an unknown relationship with the response. We consider a penalized estimator that simultaneously estimates the partially linear additive model, while performing variable selection on the linear terms. Rates of convergence and an oracle property are established. In addition, an algorithm for the proposed estimator is provided.