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Variable Selection for Censored Partially Linear Single-Index Models

We consider variable selection for partially linear single-index models with randomly censored samples. We adopt a weighted profile least-squares procedure for estimation of regression coefficients. We invoke the smoothly clipped absolute deviation penalty (SCAD) approach for simultaneous variable selection and estimation. We show that the resultant SCAD estimators are consistent and hold the oracle property. We modify the tuning parameter selector BIC for the complete data case and show that the modified BIC is able to identify the true model consistently. We present simulation results for illustration.