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Eddy Kwessi* (ekwessi@trinity.edu), 1 Trinity Place, San Antonio, TX. *Semi-Parametric Rank Estimation of Partially Linear Models with Penalized Wavelets.*

In this paper, we consider partially linear models. The parametric part is estimated using general linear rank regression techniques. The nonparametric part is considered to be a monotone function and estimated using penalized wavelets. When the design of the monotone function is fixed and known, classical wavelets are employed, whereas when the design is irregular, random, and unknown, irregular or warped wavelets are employed. The resulting wavelets coefficients are thresholded to produce consistent estimators in nonparametric settings. Monte Carlo simulations, real world applications, and comparisons with B-splines are provided (Received July 17, 2017)