1077-VE-954   **Huybrechts Bindele*** (`hfb0001@auburn.edu`), 221 Parker Hall, Auburn University, AL 36849, and **Asheber Abebe** (`abebeas@auburn.edu`), 221 Parker Hall, Auburn University, AL 36849. *Bounded influence nonlinear signed-rank regression.*

In this paper we consider weighted generalized-signed-rank estimators of nonlinear regression coefficients. The generalization allows us to include popular estimators such as the least squares and least absolute deviations estimators but by itself does not give bounded influence estimators. Adding weights results in estimators with bounded influence function. We establish conditions needed for the consistency and asymptotic normality of the proposed estimator and discuss how weight functions can be chosen to achieve bounded influence function of the estimator. Real life examples and Monte Carlo simulation experiments demonstrate the robustness and efficiency of the proposed estimator. An example shows that the weighted signed-rank estimator can be useful to detect outliers in nonlinear regression. (Received September 14, 2011)