

# Robust regression quantiles for censored data

K. Vanden Branden<sup>\*</sup>, S. Portnoy<sup>◇</sup> and M. Hubert<sup>\*</sup>

<sup>\*</sup>*K.U.Leuven, Belgium;* <sup>◇</sup>*University of Illinois, USA*

Recently, a technique based on the Kaplan-Meier estimator has been developed to introduce a reweighted estimator of the regression quantiles for the case of censored data [3]. However, this method is not resistant towards leverage points as it is based on the Koenker-Bassett estimator [2]. We will discuss an adaptation of the method developed in [3] for the regression depth quantiles which were introduced in [4]. The computation of these quantiles is discussed in [1]. We will show that this method can cope with leverage points and we will derive some asymptotical results.

## References

- [1] Debruyne M. and Hubert M. (2004), Robust regression quantiles with censored data. Submitted to the proceedings of COMPSTAT2004.
- [2] Koenker R. and Bassett G.J. (1978), Regression quantiles, *Econometrica*, **46**, 33–50.
- [3] Portnoy S. (2003), Censored regression quantiles, *Journal of the American Statistical Association*, **98**, 1001–1012.
- [4] Rousseeuw P.J. and Hubert M. (1999), Regression depth, *Journal of the American Statistical Association*, **94**, 388–402.