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Goodness of Fit for Randomly Censored Data

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Survival data with randomly censoring time is often observed in many medical and econometric applications. In this paper, we investigate such a situation by means of the Quantile Regression. Namely, it is assumed that the conditional quantile of uncensored response, given covariates, follows some regression model. There the goodness-of-fit test seems to be appropriate since all the conditional quantile, along the corresponding probabilities, are of our concern. To this end, we propose a test based on the Regression Rank Score, and then study its asymptotic behaviour. It differs from those goodness-of-fit tests in the literature, for that they could not be applied to the randomly censored data.