Quantile estimation of the censored nonlinear regression model for dependent data

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From an statistical point of view, median, or, more general, quantile restrictions have been introduced to address problems in dealing with non-normality and robustness issues. From an economic point of view, the consideration of (certain) conditional quantiles can also be of paramount interest in a lot of applications. In addition, in many of these applications the response variables are subject to fixed or random censoring and it has been stressed in the literature that the properties of quantile regression make it a natural choice to analyze these kind of problems. The objective of the present paper is to provide a detailed analysis of the asymptotic behavior of regression quantiles in censored nonlinear regression models with censoring points depending on the observation index in a non-stochastic manner and where the error process is allowed to exhibit both dependence and heterogeneity.