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EDGEWORTH EXPANSION IN CENSORED LINEAR REGRESSION MODEL

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Abstract. For the censored simple linear regression model, we establish a one-term Edgeworth expansion for the Koul, Susarla and Van Ryzin type estimator of the regression coefficient. Our approach is to represent the estimator of the regression coefficient as an asymptotic U-statistic plus some ignorable terms and hence apply the known results on the Edgeworth expansions for asymptotic U-statistic. The counting process and martingale techniques are used to provide the proof of the main results.

Key words and phrases: Censored data, regression, martingale, asymptotic U-statistic, Edgeworth expansion.