Meeting: 1003, Atlanta, Georgia, AMS CP 1, AMS Contributed Paper Session

1003-62-1012 **Fanhui Kong*** (kong@math.binghamton.edu), Math Department, SUNY at Binghamton, Binghamton, NY 13902, and **Qiqing Yu** (qyu@math.binghamton.edu), Math Department, SUNY at Binghamton, Binghamton, NY 13902. *Asymptotic Distributions of Buckley-James Estimator.* Preliminary report.

The Buckley-James Estimator (BJE) is the most appropriate extension of the least squares estimator (LSE) to the right-censored linear regression model. Lai and Ying (1991) establish asymptotic normality of the BJE under a set of smoothness regularity conditions. The BJE is based on the product-limit estimator (PLE). Both the LSE and the PLE are asymptotically normally distributed when the underlying distributions are either continuous or discontinuous. It is an interesting question whether the BJE still has asymptotic normality under a discontinuity assumption on the error distribution. In this paper, we show that the BJE has at least four different types of asymptotic distributions under various discontinuity assumptions even if it is consistent. In particular we establish certain conditions under which the BJE does not have an asymptotic normal distribution as well as conditions under which the BJE has an asymptotic normal distribution. (Received October 02, 2004)