

The Statistical Analysis of Truncated And Censored Data Under Serial Dependence

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Abstract

In this paper we consider three consecutive timepoints $X_1 \leq X_2 \leq X_3$. For example in the analysis of AIDS data one often encounters data which are observed sequentially over time. In such a case X_1 can denote the time of infection, X_2 the time when antibodies occur and X_3 when AIDS is diagnosed for the first time. Set $U_1 = X_2 - X_1$ and $U_2 = X_3 - X_2$ as the variables of interest. Typically, the random variables U_1 and U_2 depend on each other. While in applications U_1 is often truncated from the right, U_2 may be censored due to time limitations. It is the aim of this paper to statistically analyze the integral $I = \int \varphi dF$, where the F is joint distribution function of the pair (U_1, U_2) .