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Cumulative distribution function estimation under interval censoring case 1

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Abstract

We consider projection methods for the estimation of the cumulative distribution function under interval censoring, case 1. Such censored data also known as current status data, arise when the only information available on the variable of interest is whether it is greater or less than an observed random time. Two types of adaptive estimators are investigated. The first one is a two-step estimator built as a quotient estimator. The second estimator results from a mean square regression contrast. Both estimators are proved to achieve automatically the standard optimal rate associated with the unknown regularity of the function, but with some restriction for the quotient estimator. Simulation experiments are presented to illustrate and compare the methods.

AMS 2000 subject classifications: Primary 62G05; secondary 62G20.

Keywords: Adaptive estimation, Current status data, Minimax rate, Interval censoring, Nonparametric estimator, Penalized contrast.

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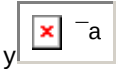
rate with censored data. Sankhy  a, 67, 441–475. MR2235573

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