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On the two-sample Cox model with doubly censored data or partly interval-censored data*

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Abstract

So far, there has not been any published work on the goodness of fit test for the Cox model with doubly censored data or partly interval-censored data. For these complicated types of censored data, we consider the two-sample Cox model problem, and construct estimators for the Cox regression parameter and the baseline distribution function via the semiparametric empirical likelihood and the functional plug-in method. These results lead to a Kolmogorov-Smirnov type goodness of fit test for the two-sample Cox model with the censored data aforementioned. Some relevant asymptotic properties are established, and some simulation results are presented. The methods developed in this article are applied to three real data sets with discussions.

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