A Bayesian Chi-Squared Test for Goodness-of-Fit in the Presence of Censored Data.

Jing Cao and Valen Johnson

We propose a general method for testing for the adequacy of parametric statistical models for data subject to censoring. The method is related to the Bayesian chi-squared test for goodness-of-fit statistic proposed in Johnson (2004) and applies to both i.i.d. data models and to regression models. We find that tests based only on observed failure times often provide better or comparable power to tests based on the complete data, and we provide discussion of the number of partitioning cells to use in the definition of the chi-squared test.