

Bayes estimation based on random censored data for some life time models under symmetric and asymmetric loss functions

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Abstract

Censored data arise naturally in a number of fields, particularly in problems of reliability and survival analysis. There are several types of censoring, in this paper, we shall confine ourselves to the right randomly censoring type. Under the Bayesian framework, we study the estimation of parameters in a general framework based on the random censored observations under Linear-Exponential (LINEX) and squared error loss (SEL) functions. As a special case, Weibull model is discussed and the admissibility of estimators of parameters verified. Finally, a simulation study is conducted based on Monte Carlo (MC) method for comparing estimated risks of the estimators obtained.

Key Words: Bayes estimation; Life time models; Lindley's approximation; LINEX loss function; Random censoring

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1 Introduction

The statistical analysis of life time or response time data has become a topic of considerable interest to statisticians and workers in the areas such as engineering, medicine, and the biological sciences, etc. The field has been expanded rapidly in recent years. Censoring arises in lifetime data in a variety of ways and arise naturally in a number of fields, particularly in problems of reliability and survival analysis. There are several types of

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