Electronic Journal: Southwest Journal of Pure and Applied Mathematics
Internet: http://rattler.cameron.edu/swjpam.html
ISSN 1083-0464
Issue No. 01, 1998, pp. 9–23.
Submitted: September 15, 1997. Published: July 31, 1998

ON THE TRANSLATED EXPONENTIAL MODEL WITH CENSORING

A. A. Bartolucci[1], J. M. Dickey[2], K. P. Singh[1], M. A. Tabatabai[3]

Abstract. Two distinct Bayesian methodologies are given for "exact"inference on translated exponential survival models in one and two population problems with censoring. The first approach, based on the use of natural conjugate families of prior distributions, differs from the traditional frequentist analysis in that the derived posterior distributions are exact under the model. The second method is based on noncontinuous-type extensions of natural conjugate priors, and involves the use of Bayes factors for sharply defined hypotheses. The two methods are intended for different states of prior information and would yield different inferences for similar data. Inferences from the two methods are presented comparing data in two breeds of mice to determine if there are genetic differences with respect to surviving the bacterial strain salmonella typhimurium.

A.M.S. (MOS) Subject classification Codes. 62,60,92.

Keywords and Phrases. Bayesian Analysis, Conjugate Prior, Bayes Factor, Mean Survival, Censoring, Exponential Distribution.

[1]Department of Biostatistics, University of Alabama at Birmingham, E-mail address: abartolucci@crl.soph.uab.deu
[2]School of Statistics, University of Minnesota
[3]Department of Mathematical Sciences, Cameron University, E-mail address: mohammadt@cameron.edu