



The Inverse Weibull Survival Distribution and its Proper Application

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The peculiar properties of the Inverse Weibull (IW) distribution are shown. It is proven that the IW distribution is one of the few models having upside- down bathtub (UBT) shaped hazard function. Three real and typical de generative mechanisms, which lead exactly to the IW random variable, are formulated. So a new approach to proper application of this relatively unknown survival model is supported. However, we consider also the case in which any knowledge about generative mechanism is unavailable. In this hypothesis, we study a procedure based on the Anderson-Darling statistic and log-likelihood function to discriminate between the IW model and others alternative UBT distributions. The invariant properties of the proposed discriminating criteria have been proven. Based on Monte Carlo simulations, the probability of the correct selection has been computed. A real applicative example closes the paper.

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