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A WEIGHTED VERSION OF GAMMA DISTRIBUTION

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Abstract

Weighted Gamma (WG), a weighted version of Gamma distribution, is introduced. The hazard function is increasing or upside-down bathtub depending upon the values of the parameters. This distribution can be obtained as a hidden upper truncation model. The expressions for the moment generating function and the moments are given. The non-linear equations for finding maximum likelihood estimators (MLEs) of parameters are provided and MLEs have been computed through simulations and also for a real data set. It is observed that WG fits better than its submodels (WE), Generalized Exponential (GE), Weibull and Exponential distributions.

Keywords: gamma distribution, weight function, hazard function, maximum likelihood estimator, Akaike Information criterion.

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