

Parameter Estimation of Transmuted Weibull Distribution with L-Moments and TL- Moments

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ABSTRACT

Accurate estimation of parameters of a probability distribution is of massive importance in statistics. Biased and vague estimation of parameters can lead to misleading results. The Transmuted Weibull Distribution (TWD) has the advantage of being capable of modeling various types of data, so the accurate estimation of the parameters of this distribution is required. The main concern of this paper is to derive the Trimmed Linear moments (TL-moments) of the TWD and use the TL-moments to estimate unknown parameters of the TWD. An special case, linear moments (L-moments) will be obtained and used to estimate the unknown parameters of the TWD.

Key words and Phrases: Transmuted Weibull Distribution, Order Statistics, L-moments, TL-moments, Monte Carlo simulation.