

Power Transformed Exponential-Poisson Distribution: Properties and Stress-Strength Reliability

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ABSTRACT

A lifetime distribution called the exponential-Poisson distribution, with a decreasing hazard rate is generalized by adding a new shape parameter using power transformation. This developed distribution will have both non-decreasing and non-increasing shapes for the hazard function. Different properties like survival function, hazard function, quantile functions and stress-strength reliability functions are developed. The estimation of the parameters is developed using the maximum likelihood estimation procedure. Simulation study is conducted to find out how various parameter settings affect the effectiveness of our suggested approach.

Keywords: Exponential-Poisson distribution, power transformed exponential-Poisson, stress-strength reliability

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