Exponentiated Generalized Power Series Family of Distributions

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Abstract

In this paper, a new family of distributions called the exponentiated generalized power series family is proposed and studied. Statistical properties such as stochastic order, quantile function, entropy, mean residual life and order statistics were derived. Bivariate and multivariate extensions of the family was proposed. The method of maximum likelihood estimation was proposed for the estimation of the parameters. Some special distributions from the family were defined and their applications were demonstrated with real data sets.