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A NEW CUBIC TRANSMUTED EXPONENTIAL DISTRIBUTION WITH APPLICATIONS

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Abstract. The exponential distribution is one of the most important distributions in probability and statistics. However, with the increasing complexity of data, several authors have developed new extensions of the exponential distribution, particularly by using quadratic and cubic transmutations. In this paper, we introduce a new cubic transmuted exponential distribution. We derive its main statistical properties, and we investigate parameter estimation via the maximum likelihood method. Finally, real data applications are presented to illustrate the practical usefulness and superior fitting capabilities of our new distribution.

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