

Nofal, Zohdy M.; Afify, Ahmed Z.; Yousof, Haitham M.; Cordeiro, Gauss M.
The generalized transmuted-G family of distributions. (English) Zbl 1368.62027
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Summary: We introduce a new class of continuous distributions called the generalized transmuted-G family which extends the transmuted-G class. We provide six special models of the new family. Some of its mathematical properties including explicit expressions for the ordinary and incomplete moments, generating function, Rényi and Shannon entropies, order statistics and probability weighted moments are derived. The estimation of the model parameters is performed by maximum likelihood. The flexibility of the proposed family is illustrated by means of three applications to real data sets.

MSC:

62E10 Characterization and structure theory of statistical distributions
62N05 Reliability and life testing
62N02 Estimation in survival analysis and censored data

Cited in **1** Review
Cited in **13** Documents

Keywords:

entropy; generating function; maximum likelihood; order statistic; transmuted family

Full Text: [DOI](#)

References:

- [1] DOI: 10.18187/pjsor.v10i4.836 · doi:10.18187/pjsor.v10i4.836
- [2] DOI: 10.18187/pjsor.v11i1.873 · doi:10.18187/pjsor.v11i1.873
- [3] DOI: 10.18187/pjsor.v11i1.956 · doi:10.18187/pjsor.v11i1.956
- [4] DOI: 10.1080/00949650903530745 · Zbl 1219.62022 · doi:10.1080/00949650903530745
- [5] DOI: 10.1016/j.jfranklin.2010.06.010 · Zbl 1202.62018 · doi:10.1016/j.jfranklin.2010.06.010
- [6] Cordeiro G.M., *J. Data Sci.* 11 pp 1– (2013)
- [7] Cordeiro G.M., *Stat. J. Theor. Appl. Stat* 48 pp 256– (2014)
- [8] DOI: 10.1081/STA-120003130 · Zbl 1009.62516 · doi:10.1081/STA-120003130
- [9] DOI: 10.1080/03610929808832134 · Zbl 0900.62534 · doi:10.1080/03610929808832134
- [10] DOI: 10.15672/HJMS.2014408152 · Zbl 1375.60042 · doi:10.15672/HJMS.2014408152
- [11] Khan M.S., *Eur. J. Pure Appl. Math* 6 pp 66– (2013)
- [12] DOI: 10.1016/j.spl.2009.05.026 · Zbl 1169.62012 · doi:10.1016/j.spl.2009.05.026
- [13] DOI: 10.1002/0471458546 · doi:10.1002/0471458546
- [14] Lee C., *J. Mod. Appl. Stat. Methods* 6 pp 17– (2007)
- [15] DOI: 10.1002/qre.691 · doi:10.1002/qre.691
- [16] Provost S.B., *Pak. J. Stat.* 27 pp 111– (2011)
- [17] DOI: 10.1080/03610918.2013.763978 · Zbl 1462.62593 · doi:10.1080/03610918.2013.763978

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