THE MAX-WEIBULL POWER SERIES DISTRIBUTION

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Abstract. In this paper the power series distribution called Max-Weibull is introduced and analysed. For this new class, we intend to determine the lifetime distribution of the maximum of a number of independent Weibull distributed random variables in a random number which has a power series distribution. This can be achieved by applying the general formulas obtained by Leahu, Munteanu and Cataranciuc (2013). A series of new probabilistic models are presented, for which certain reliability characteristics (e.g. survival function, hazard rate) are calculated. Also, some limit theorems are formulated and proved.

References


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