Joint moment generating functions of nonadjacent dual generalized order statistics from reflected generalized Pareto distribution

Abd EL-Baset A. Ahmad

Abstract:

In this article, a class of reflected generalized Pareto distributions (cf. Burkschat et al., 2003) is considered. Recurrence relations for joint moment generating functions of higher non adjacent dual generalized order statistics based on a random sample drawn from the considered class are derived. Higher joint moments of non adjacent dual generalized order statistics (reversed ordered order statistics and lower k-records as special cases) are obtained. Recurrence relations for single and product moment generating functions and moments of higher non adjacent dual generalized order statistics are derived. Some results of higher moments of non adjacent generalized order statistics from generalized Pareto distributions (cf. Johnson et al., 1995), are obtained by using a relation connecting higher moments of generalized order statistics and its dual.

Keywords:

Generalized order statistics; Lower k-records; Moments; Moment generating functions; Reversed ordered order statistics

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