

## CHARACTERIZATION RESULTS ON GENERALIZED TWO PARAMETRIC CUMULATIVE RESIDUAL ENTROPY OF MINIMUM ORDER STATISTICS

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### SUMMARY

Recently, Rifat and Baig [?] have introduced a generalized uncertainty measure. During this article, we extend this proposed measure with respect to generalized two parametric cumulative entropy of first order statistics and its dynamic version i.e., the generalized two parametric cumulative residual entropy of first order statistics. We study that the generalized two parametric cumulative residual entropy of order statistics determine the underlying distribution uniquely. We also consider a shift-dependent generalized two parametric measure of uncertainty and its dynamic (residual) version. A few important results and monotonicity property is likewise mentioned. Further, when  $r$  independent and identically distributed observations are available, an estimator of the proposed generalized two parametric entropy under study is demonstrated utilizing empirical approach.

*Keywords and phrases:* Shannon's Entropy; Order Statistics; Cumulative entropy; Cumulative residual entropy; Weighted cumulative entropy; Weighted cumulative residual entropy; Empirical Entropy; Rifat's and Baig's uncertainty measure.

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