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## A Note On Probability Weighted Moment Inequalities For Reliability Measures

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**Abstract:** Weighted distributions in general and length-biased distributions in particular are very useful and convenient for the analysis of lifetime data. These distributions occur naturally for some sampling plans in reliability, ecology, biometry and survival analysis. In this note an increasing failure rate property for lifetime distributions is used to define a natural ordering of the weighted reliability measures. Some useful bounds, probability weighted moment inequalities and variability orderings for weighted and unweighted reliability measures and related functions are presented. Stochastic comparisons and moment inequalities for weighted reliability measures and related functions are given.



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