RELATIONSHIPS BETWEEN MOMENTS OF TWO RELATED SETS OF ORDER STATISTICS AND SOME EXTENSIONS

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Abstract. Govindarajulu expressed the moments of order statistics from a symmetric distribution in terms of those from its folded form. He derived these relations analytically by dividing the range of integration suitably into parts. In this paper, we establish these relations through probabilistic arguments which readily extend to the independent and non-identically distributed case. Results for random variables having arbitrary multivariate distributions are also derived.

Key words and phrases: Double exponential distribution, exponential distribution, order statistics, outliers, permanents, recurrence relations.