ON RECURRENCE RELATIONS FOR ORDER STATISTICS

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ABSTRACT

The main purpose of this paper is to provide a unified approach to the treatment of linear recurrence relations for single or pairs of order statistics. Suppose such a relation has been proved in the simplest case when \( X_1, \ldots, X_n \) are independent variates having an arbitrary absolutely continuous distribution. It is pointed out that the same relation continues to hold when the \( X \)'s are exchangeable, whether continuous or not. As has recently become well known, further generalizations are possible when the \( X \)'s have any joint distribution. Attention is also drawn to a useful nonlinear recurrence relation due to Bonelet (1987).

Keywords: Linear recurrence relations, exchangeable variates