

N. Balakrishnan · Erhard Cramer

Progressive censoring from heterogeneous distributions with applications to robustness

Received: 1 August 2005 / Revised: 26 April 2006 / Published online: 19 July 2006
© The Institute of Statistical Mathematics, Tokyo 2006

Abstract Progressively censored order statistics from heterogeneous distributions are introduced and their properties are investigated. After deriving the joint density function, some properties are established. In particular, the case of proportional hazards leads to an interesting connection to the model of generalized order statistics. Finally, the special case of exponential distribution is considered and some known results are generalized to this heterogeneous case, and their implications to robustness are highlighted.

Keywords Progressive censoring · Order statistics from non-identically distributed random sample · Generalized order statistics · Spacings · Single outlier · Exponential distribution · Permanents · Proportional hazards