RELIABILITY ESTIMATION IN MULTI-COMPONENT PARETO STRESS-STRENGTH MODELS

Parameshwar V. Pandit and Kala J. Kantu

Abstract

A Stress-Strength model is formulated for a multi-component system consisting of k identical components. The k components of the system with random strengths $(X_1, X_2, ..., X_k)$ are subjected to one of the r random stresses (X_{k+1}, X_{k+2}). The estimation of system reliability based on maximum likelihood estimates (MLEs) in k components series system is considered with the assumption that strengths and stresses follow Pareto distribution.