

Behavior of Failure Rates of Mixtures

By

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A well known result in reliability is that a mixture of distributions with decreasing failure rates has a decreasing failure rate. Until recently not much else was known about the behavior of mixtures. One problem is that mixtures of very simple distributions can have complex failure rates. Recent research has focused on the tail of a mixture and some results are now known. One thing which is not known is how the changes of monotonicity of the failure rates in the components of a mixture effect the changes of monotonicity in the mixture. Some light is shed on this in cases where the components are linear or Weibull.