

**Some extended Weibull distributions and
its applications in reliability**

by

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ABSTRACT

Exponential distribution is widely used for the modelling and analysis of time-between-events. In reliability engineering and survival analysis, this distribution implies no-ageing which is not realistic. Weibull distribution has been used for monotonic aging. It is especially suitable for industry applications because of its graphical interpretation and probability plotting procedure that is useful for both parameter estimation and model validation. However, the basic Weibull distribution with two parameters is still not flexible enough. In the past few years, several extended Weibull distributions have been developed and studied. In this talk, we will introduce some of our research studies in this area. Some useful models will be presented and their properties and uses will be discussed. A few related research directions will also be highlighted.

BIOGRAPHY

Prof. M XIE did his undergraduate study and graduated with MSc from Royal Inst of Technology in Sweden in 1984. He later received a PhD at Linkoping University in 1987. He joined the National University of Singapore in 1991 as one of the first recipients of the prestigious Lee Kuan Yew Fellowship. Prof Xie was a William Mong Visiting Fellow to Univ

of Hong Kong in 1996 and an invited professor to INPG (France) in 2000. Prof Xie has published over 150 journal papers and 6 books, including "Statistical Models and Control Charts for High Quality Processes" by Kluwer Academic, "Software Reliability Modelling" by World Scientific, "Advanced QFD Applications" by ASQ Quality Press, "Weibull Models" by John Wiley, "Stochastic Aging and Dependence for Reliability" by Springer. Currently he is an editor of IJQRSE, a Chief-editor of QTQM, a department editor of IIE Transactions, associate editor of IEEE Trans on Reliability, among others. Prof Xie has supervised over 25 PhD students and his students hold regular position in banking, industry and academia in different continents. Prof Xie is elected fellow of IEEE and Inst of Engineers Singapore.

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All are welcome!

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