Accepted Manuscript

A Flexible Distribution and Its Application in Reliability Engineering

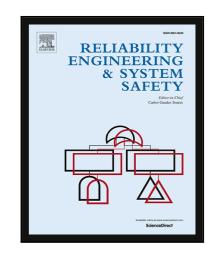
Yan-Gang Zhao, Xuan-Yi Zhang, Zhao-Hui Lu

PII: S0951-8320(17)31175-4 DOI: 10.1016/j.ress.2018.03.026

Reference: RESS 6110

To appear in: Reliability Engineering and System Safety

Received date: 5 October 2017 Revised date: 15 March 2018 Accepted date: 22 March 2018



Please cite this article as: Yan-Gang Zhao, Xuan-Yi Zhang, Zhao-Hui Lu, A Flexible Distribution and Its Application in Reliability Engineering, *Reliability Engineering and System Safety* (2018), doi: 10.1016/j.ress.2018.03.026

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

ACCEPTED MANUSCRIPT

Highlights

- A probability distribution based on the cubic normal transformation in a conventional and simple form is proposed.
- The proposed distribution includes six distinguished types, the boundaries of each type are identified, and the completeness of each type in the proposed distribution is proven.
- The applicable range of the proposed distribution covers a large area in the skewness-kurtosis plane and the skewness-kurtosis relationship for commonly used distributions are within the applicable range of the proposed distribution.
- The proposed distribution has rich flexibility and can fit the existing two- or three-parameter distributions quite well.
- The accuracy and efficiency of the proposed distribution in simulating distributions of random variable, calculating reliability index, finding optimal inspection interval and assessing the influence of the input uncertainties on the entire output are demonstrated through several practical engineering problems.

Download English Version:

https://daneshyari.com/en/article/7195125

Download Persian Version:

https://daneshyari.com/article/7195125

<u>Daneshyari.com</u>