

Accepted Manuscript

A New Unequal-weighted Sampling Method for Efficient Reliability Analysis

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PII: S0951-8320(17)30685-3
DOI: [10.1016/j.res.s.2017.12.007](https://doi.org/10.1016/j.res.s.2017.12.007)
Reference: RESS 6027



To appear in: *Reliability Engineering and System Safety*

Received date: 13 June 2017
Revised date: 23 October 2017
Accepted date: 13 December 2017

Please cite this article as: Jun Xu, Fan Kong, A New Unequal-weighted Sampling Method for Efficient Reliability Analysis, *Reliability Engineering and System Safety* (2017), doi: [10.1016/j.res.s.2017.12.007](https://doi.org/10.1016/j.res.s.2017.12.007)

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Highlights

- The failure probability is calculated based on a weighted summation over sub-spaces.
- The random-variate space is partitioned via Voronoi cells to obtain the sub-spaces and their weights.
- The failure probability of each sub-space is estimated by kernel density estimation, where the bandwidth is suggested
- Numerical examples are investigated to validate the proposed method.

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