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# NASA TECH BRIEF

## *Marshall Space Flight Center*



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### Table for Estimating Parameters of Weibull Distribution

A table of weights for computing the best linear invariant (BLI) estimates of Weibull (extreme-value) distribution parameters can be used for reliability estimations, especially in the failure analysis of items with multiple flaws.

Under censored life-test conditions, assuming that failure time follows a Weibull distribution, the table will yield BLI estimates for the log of the reliable life. These estimates, with the expected loss invariant under translation, have uniformly smaller expected loss than the Gauss-Markov best linear unbiased estimates.

An associated article (see Ref.) compares the BLI estimates with other widely used systems, and describes the use of the table for computing specific Weibull parameters.

#### Reference:

Mann, N.R.: Tables for Obtaining the Best Linear Invariant Estimates of Parameters of the Weibull Distribution. *Technometrics*, vol. 9, no. 4, Nov. 1967, pp. 629-645.

#### Note:

Requests for further information may be directed to:

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No patent action is contemplated by NASA.

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