Analele **Univ**ersităţii **Bucureşti**, **Mat**ematică
Anul LII, Nr. 1(2003), pp. 75–86

On the maximum-likelihood estimation on the two parameters for Weibull model

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January 24, 2002

Abstract : We'll estimate the scale and shape parameters of the Weibull model by applying the maximum-likelihood statistical technique. But in this particular case the resulted non-linear system could not be solved with the classic Newton-Raphson method since the procedure isn't constantly convergent. Pursuing the transforms suggested by Gupta and Levin [5] we used the halving interval algorithm to solve an equivalent equation which have always a solution and only one. Finaly a Monte Carlo simulation algorithm was used to validate the proposed procedure.

Key words and phrases : Weibull model, maximum-likelihood estimation, scale and shape parameters, Monte-Carlo technique, computer simulation, Newton-Raphson procedure, halving algorithm.

Mathematics Subject Classification (2000) : 62E15, 62F10, 65C20, 65H05