

APPROXIMATING THE CHARACTERISTICS OF SEQUENTIAL TESTS

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Abstract: In this paper the dependence structure inherent in the sequence of partial sums is utilized to derive accurate approximations for the tail probabilities of the stopping time associated with sequential tests for the normal mean. The approximations for these tail probabilities are used to approximate the overall significance level, power function, expected stopping time, and the variance of the stopping time associated with the sequential tests discussed here. Moreover, after the testing procedure has been completed, the approximations derived in this paper are used to evaluate P -values and confidence intervals for the normal mean. Numerical results are presented for the sequential probability ratio test and the asymptotically optimal Bayes test.

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