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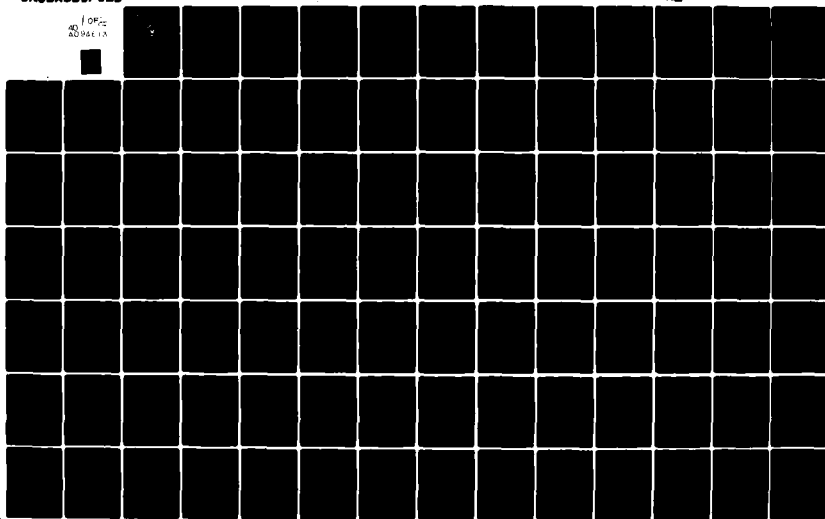
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TRUNCATION AND ACCEPTANCE RULES
FOR SEQUENTIAL TESTS OF
A BERNOULLI PARAMETER

by

Jürgen Petersen

September 1980

Thesis Advisor:

G. F. Lindsay

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Truncation and Acceptance Rules for Sequential
Tests of a Bernoulli Parameter

by

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Lieutenant Commander, Federal German Navy

Submitted in partial fulfillment of the
requirement for the degree of

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ABSTRACT

In the paper, Wald's Sequential Probability Ratio test for a Bernoulli parameter is studied to assess the influence of truncation on the true probabilities of error of the first and second kind. It is shown that a natural truncation point exists for every SPR test such that the desired error probabilities are not exceeded. Extended acceptance rules were described whose use allows truncation comparatively early when certain sample sizes are picked. The true error probabilities achieved are either both smaller or equal to the desired ones or one is smaller or equal and the other is exceeded. In the latter case, that probability of error that shall not be exceeded can be chosen and the other will be as small as possible. A listing of 126 SPR plans useful in quality control applications has been included which gives all described truncation points with the applicable acceptance rules and the values for the true probabilities of error.

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I. INTRODUCTION

In the field of statistical quality control, a possible way to assure quality is acceptance sampling by attributes. One objective is to keep inspection costs low and still assure the defined level of quality. Lowering inspection costs often goes hand in hand with reducing the sample size of the test. Several types of sampling plans have been developed, one of which is A. Wald's Sequential Probability Ratio plan. Whereas other sampling plans have fixed sample sizes, the maximum number of samples that have to be drawn in a sequential sampling plan is unbounded. This problem does not occur only in quality control, but also in other fields, and various approaches have been undertaken to overcome this disadvantage.

Although Wald suggested a way of truncating and redefining the acceptance criterion, he warned that this will change the envisioned protection against errors [Ref. 1]. Some more recent papers describe methods of how to determine useful properties of sample size in sequential tests, as do Aroian [Ref. 2] for truncated and Corneliussen and Ladd [Ref. 3] for untruncated sequential tests for the binomial distribution. Aroian suggested and Corneliussen and Ladd actually used numerical methods on a computer to obtain the information needed.

In this paper, we shall investigate two ways of truncating Wald's Sequential Probability Ratio test for a Bernoulli parameter. The first way fixes both probabilities of error in advance of desired levels and assures that they are met. This conforms with Wald's approach to sequential sampling. The second way fixes and assures only the probability of one error, either α or β , and allows the other to be adjusted. The objective is in either case to cut down on maximum necessary sample size. Simple and later on more generated extended acceptance rules at the truncation point are considered. The results of this paper will be presented as a display of usable truncation values for members of a broad class of sequential sampling plans which could occur in quality control.

We will proceed through the study in the following steps: The next chapter is an outline of Wald's Sequential Probability Ratio test for a Bernoulli parameter. It includes the general procedure of the test, compares planned error probabilities with truly obtained ones, describes the test by a sequential-sampling chart, and gives an analysis of how the probabilities of acceptance accumulate.

The third chapter deals with truncating Wald's sequential test where both error probabilities are fixed in advance. The acceptance rule applied throughout the chapter is that at the truncation point all continue-sampling outcomes are

added to the rejection region. The chapter's result is the finding of a natural truncation point.

In Chapter IV, we truncate and use an extended acceptance region by including the closest continue-sampling outcome at the truncation point. All other outcomes are again added to the rejection region. We will define this simple extended (h_1-1) acceptance rule and then analyze the now relevant accumulation of acceptance probabilities. From this, a necessary condition is described to get true error probabilities that do not exceed the planned ones. The definition of optimal truncation where only one error probability is fixed in advance will be brought up. At the end of the chapter, formulae to calculate optimal truncation points for use with the simple extended acceptance rule are derived.

Chapter V generalizes the concept of extended acceptance rules at truncation points, and provides an outline of problems that arise when optimal truncation is to be achieved. A way to overcome these problems is discussed.

The last chapter is a comprehensive outline of the study and gives all obtained results together with an example. The reader whose main interest is application of the results may directly turn to Chapter VI.

Appendix A tabulates values for optimal and natural truncation points for some sequential plans useful in quality control.

II. WALD'S SEQUENTIAL PROBABILITY RATIO TEST

Consider a test for a Bernoulli parameter p where the null hypothesis is $p = p_0$ and the alternative is $p = p_1$. The probabilities of errors of the first and second kind are α and β , respectively. Wald [Ref. 1] developed a sequential procedure for this kind of test. It will be described in the following sections.

A. THE GENERAL METHOD

In a Wald sequential plan, samples of size 1 are drawn sequentially and after the n th sample has been inspected, a probability ratio of value r_n is calculated. Then a decision about the outcome of the test is made by comparing the probability ratio value r_n against two test-plan specific values A and B as follows:

- * If $r_n \geq A$ then stop sampling and accept the null hypothesis,

- * if $r_n \leq B$ then stop sampling and reject the null hypothesis, and

- * if $B < r_n < A$ then continue sampling.

Wald proposed to assign in practice A the value $(1-\beta)/\alpha$ and B the value $\beta/(1-\alpha)$. At the same time, he pointed out that with those values, the planned error probabilities α and β are not exactly met.

B. PLANNED AND TRUE ERROR PROBABILITIES

Some truncation rules that we bring up in this paper make use of appreciable differences between planned and truly achieved error probabilities. In these truncated plans, the differences as they occur in Wald's untruncated sequential tests are reduced as much as possible while still satisfying the stated risks.

Wald has shown that, with his test procedure, one needs only worry about three combinations of all possible ways true error probabilities (α' , β') can differ from the planned α and β [Ref. 1, p. 44-46]:

- Either (1) $\alpha' \leq \alpha$ and $\beta' \leq \beta$,
or (2) $\alpha' \leq \alpha$ and $\beta' > \beta$,
or (3) $\alpha' \geq \alpha$ and $\beta' \leq \beta$.

For use in a test plan, the true risk combination (1) is satisfactory in that the planned error probabilities will never be exceeded. In combinations (2) and (3), however, one of the true error probabilities will exceed its planned value while the other will not.

Wald pointed out that although the planned error probabilities are exceeded, the difference is insignificant for practical purposes. Accordingly, as we deal with the application of sequential plans, this assurance is used to include

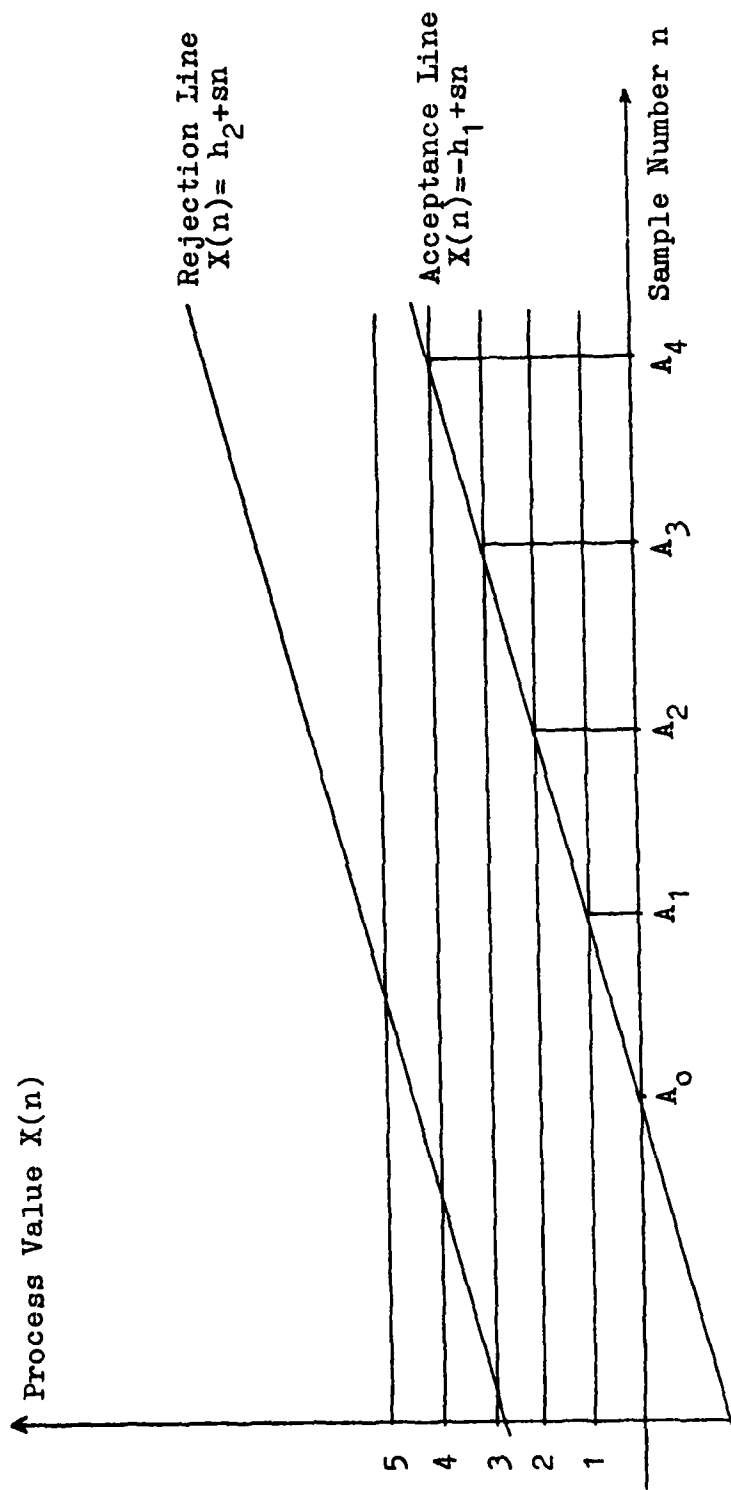
combinations (2) and (3) into combination (1) and say: although one of the true error probabilities may be greater than planned, since the difference is insignificant, we may treat it as if they were equal.

Besides the general description of Wald plans, a graphical representation of sequential sampling plans will prove helpful. This representation will be given in the following section.

C. DESCRIPTION BY SEQUENTIAL-SAMPLING CHART

In the field of quality control, the sequential-sampling chart is used as a tool to implement Wald's Sequential Probability Ratio test. It describes sequential sampling as a special random walk in two dimensions. In this study, the chart is used to clarify concepts and notation. The chart shown in Figure 1 does not represent a specific plan but rather an illustrative example.

In the notion of a sequential sampling plan as a random walk, each possible outcome of the test process is defined by the sample number n together with the value of the process at n , denoted by $X(n)$. (The value of the process can be illustrated for the case when the outcome of each single inspection is classified as good or bad: $X(n)$ represents the number of bad items that were found among the total of n items inspected.) The two limit lines which, as absorbing boundaries, separate the continue-sampling



The letters h_1, h_2 , and s are test parameters. The letters A_0, A_1, A_2, A_3, A_4 , denote sample numbers at which an acceptance decision is possible.

Figure 1 - A SEQUENTIAL-SAMPLING CHART

region from the rejection and acceptance region, respectively, are described by

$$X(n) = h_2 + sn$$

and

$$X(n) = -h_1 + sn$$

where h_1 , h_2 and s are plan parameters.

Once the process crosses the upper limit line, rejection of the null hypothesis will follow. The value of the process at the sample number n , $X(n)$, can take on integer values such that $X(n) = i$, $i = 0, 1, 2, \dots, n$. As the test proceeds, it is possible that a decision to accept the null hypothesis takes place. For that, it is necessary that the process crosses the acceptance limit line while having a certain process value $X(n) = i$. Depending on the value of the slope s , not all values of n represent possible points where acceptance can occur. Let us denote the sample number n at which acceptance can occur for $X(n) = i$ by A_i and call these sample number values acceptance points. This means that we have acceptance points at $n = A_0, A_1, A_2, \dots$ and, starting from A_0 , these points partition the sample number axis in disjoint intervals $[A_i, A_{i+1}-1]$, which we shall denote as $[A_i, A_{i+1})$. The intervals will be of nearly equal size.

D. ANALYSIS OF ACCEPTANCE PROBABILITIES

The objective of this study is to find truncation points for sequential test plans for Bernoulli parameters, and to assess their compliance with the desired specifications. Judgment will be made on the ground of how close the true error probabilities α' and β' are to the desired ones α and β . Subsequently we will calculate β' directly as the probability of accepting the null hypothesis when the alternative hypothesis is true. The value for α' will be obtained by assessing $(1-\alpha')$, the probability of accepting the null hypothesis when it is in fact true. We will analyze in this section how these two probabilities of acceptance accumulate over the course of the test.

In the last section, we saw that the sample number axis may be divided into intervals $[0, A_0)$, $[A_0, A_1)$, $[A_1, A_2)$, ... where the A_i are the acceptance points of the plan. Now we associate with each of the acceptance points A_i an unconditional termination probability that the test will terminate at A_i with an acceptance decision. The sum of the termination probabilities associated with all A_i 's is the probability to accept the null hypothesis as it represents all possible ways to achieve acceptance in an untruncated Wald sequential sampling plan.

Analogous to the above, the sum of termination probabilities associated with acceptance points that have values

less than or equal to n is the probability of accepting the null hypothesis when at most n samples are drawn. We will denote this acceptance probability by $P_a(n)$. To indicate under which assumption the probability was calculated, we will write $P_a(n|H_0)$ if the null hypothesis is true, or $P_a(n|H_1)$ if the alternative is true.

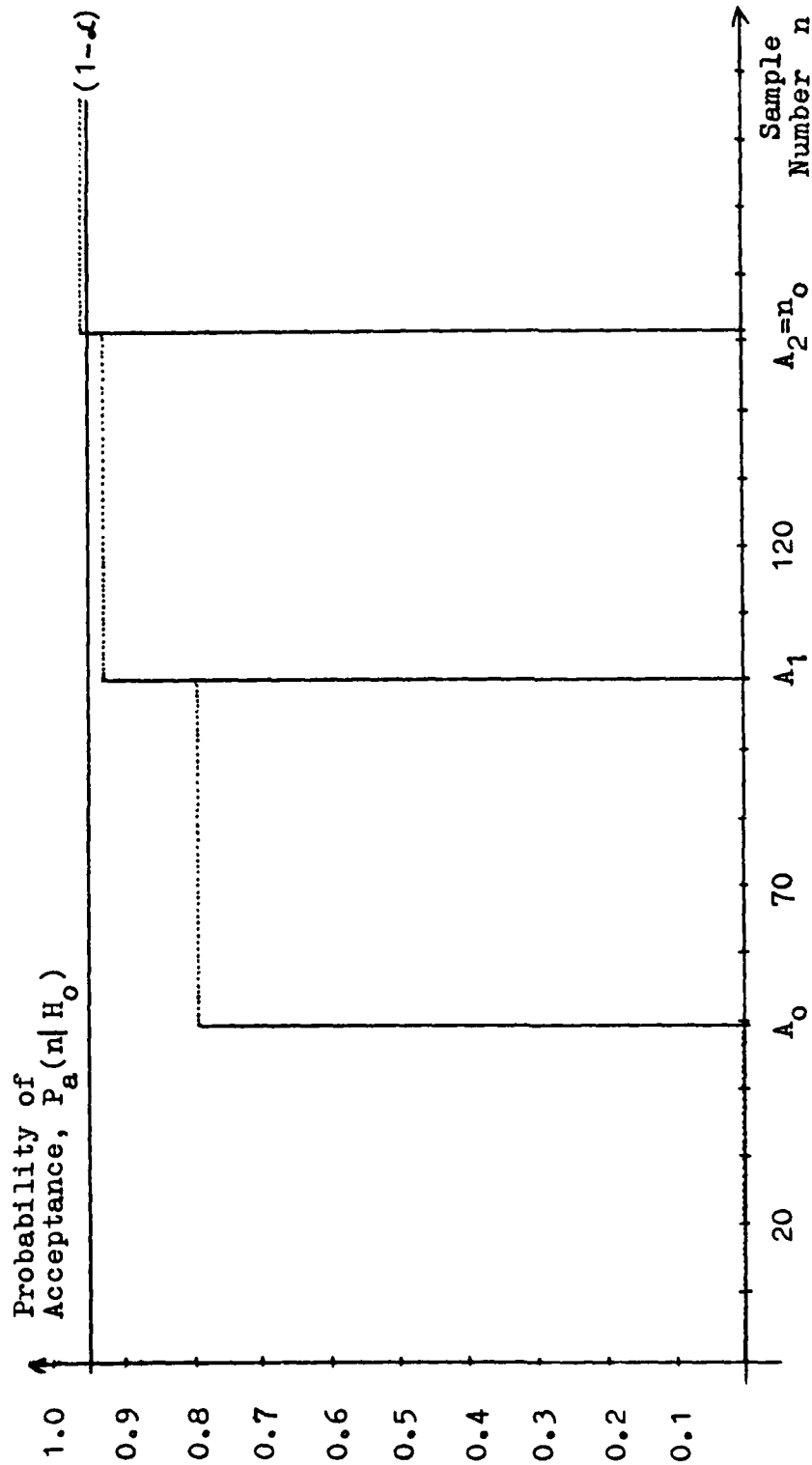
The following statements about the probability of acceptance when at most n samples can be drawn are true:

- (i) Since $h_1 > 0$, $P_a(0) = 0$.
- (ii) As n is enlarged, $P_a(n)$ never decreases but increases at the acceptance points $A_0, A_1, A_2, \dots$.
- (iii) For all n in the interval $[A_i, A_{i+1})$, $P_a(n) = P_a(A_i)$.

With truncation at n , and rejecting there if we have not accepted at an acceptance point,

- (iv) $P_a(n|H_0) = (1-\alpha')$ and
- (v) $P_a(n|H_1) = \beta'$, where the primes refer to true error probabilities.

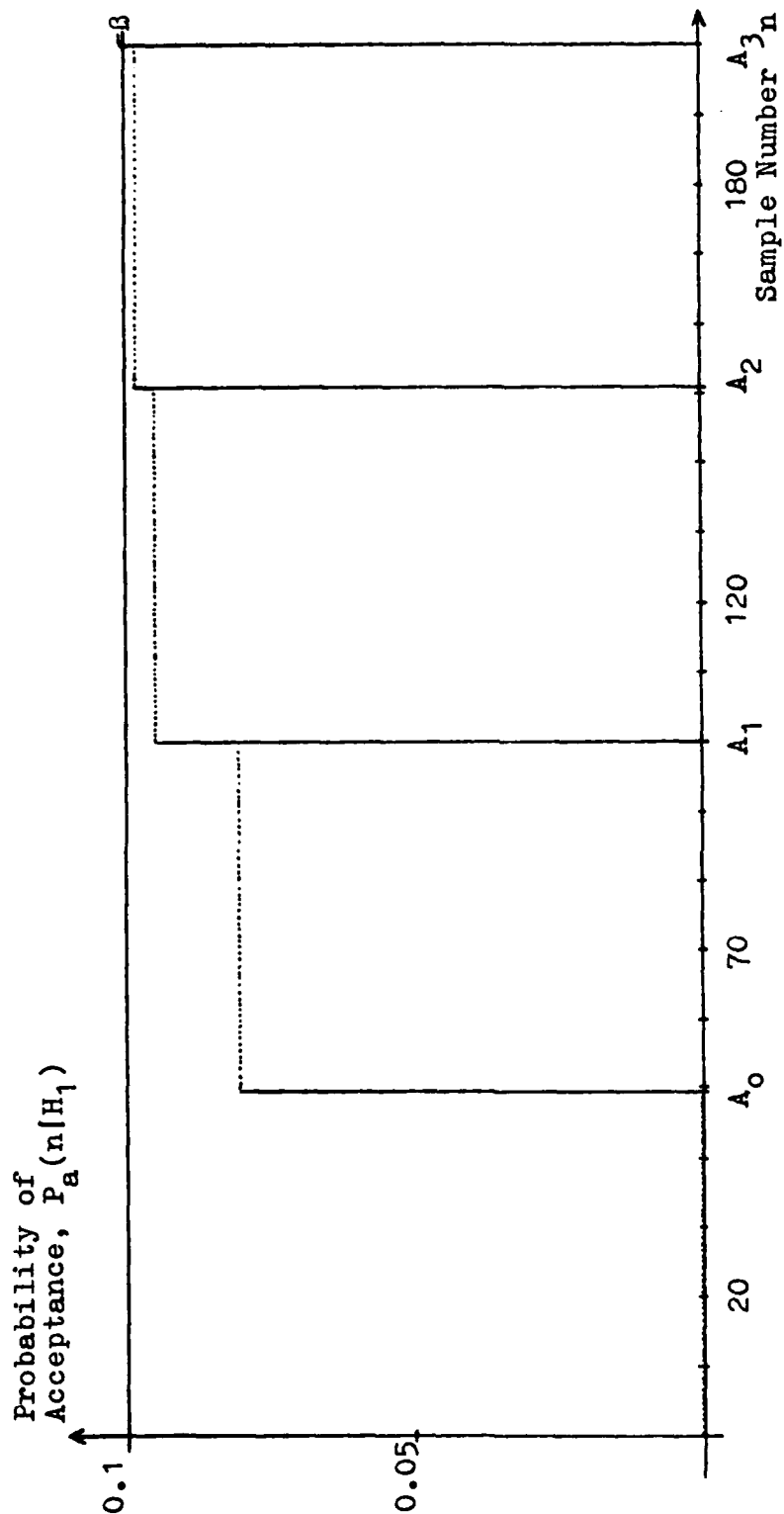
Figures 2 and 3 depict the accumulation of the two probabilities $P_a(n|H_0)$ and $P_a(n|H_1)$, respectively, for an arbitrary sequential probability ratio plan. The ordinate values were calculated by means of a computer algorithm. The algorithm accounts for rejection as well as acceptance, i.e., only sampling developments are considered that lie between



The graph shows the accumulated acceptance probability with H_0 true when at most n samples are drawn. If no acceptance occurs at an acceptance point, then reject. The underlying plan is $H_0: p=0.005$, $H_1: p=0.05$, $\alpha=0.05$, $\beta=0.1$. Here, A_0, A_1, A_2 denote the first three acceptance points. Also, A_2 is identical with the point n_0 .

Figure 2 - ACCUMULATED ACCEPTANCE PROBABILITY WHEN AT MOST N

SAMPLES ARE DRAWN (NULL HYPOTHESIS TRUE)



The graph shows the accumulated probability of acceptance with H_1 true when at most n samples are drawn. If no acceptance occurs at an acceptance point, then reject. The underlying test plan is the same as in Figure 2. Here, A_0, A_1, A_2, A_3 , denote the first four acceptance points.

Figure 3 - ACCUMULATED ACCEPTANCE PROBABILITY WHEN AT MOST N
SAMPLES ARE DRAWN (ALTERNATIVE TRUE)

the acceptance and rejection limit lines until absorption in the acceptance region occurs.

In Section B of this chapter, we investigated combinations of differences between planned and true error probabilities. There we said that for our application purposes only the combination $\alpha' \leq \alpha$ and $\beta' \leq \beta$ will be relevant as an outcome of an untruncated sequential sampling plan. The combination can equivalently be stated as

$$(1 - \alpha') \geq (1 - \alpha)$$

and

$$\beta' \leq \beta .$$

For any test plan that we truncate at the sample number n , we have by definition

$$P_a(n|H_0) = 1 - \alpha'$$

and

$$P_a(n|H_1) = \beta' .$$

Suppose that we let n approach infinity, i.e., we do not restrict the plan at all. Then we can write symbolically

$$P_a(\infty|H_0) \geq (1 - \alpha) ,$$

and

$$P_a(\infty|H_1) \leq \beta .$$

From $P_a(\infty|H_0) \geq (1 - \alpha)$ follows that there must be one or more values for n for which $P_a(n|H_0) \geq (1 - \alpha)$. We will denote the smallest of those sample number values by n_0 , i.e.,

$$P_a(n_0|H_0) \geq (1 - \alpha) ,$$

such that $P_a(n|H_0) < (1 - \alpha)$ whenever $n < n_0$. The accumulation of $P_a(n|H_0)$ as the value of n is increased can be observed in Figure 2.

Consider in turn the probability of accepting the null hypothesis when in fact it is false and the alternative is true. Here, as n increases, the true error probability is smaller than or equal to the planned one ($\beta' \leq \beta$), and thus possible values for $P_a(n|H_1)$ are such that $0 \leq P_a(n|H_1) \leq \beta$. Hence for control of type II error, it is not necessary to specify a certain sample number in the sense that we defined n_0 when the null hypothesis was true. Rather the planned error probability β will not be exceeded regardless of the value that n assumes.

Figure 3 shows an example of the case where the acceptance probability $P_a(n|H_1)$ approaches in magnitude the neighborhood of the number $\beta = 0.1$ as the sample number increases.

We have seen now how the probabilities of acceptance for our two special cases behave in general. This yields a remarkable but simple result that will be explained in the course of the next chapter.

III. TRUNCATING THE SEQUENTIAL PROBABILITY RATIO TEST

Wald spent some effort on the problem of truncating his test procedure. He warns that [Ref. 1, p. 61]:

By truncating the sequential process at the n th trial we shall, however, change the probability of error of the first and second kind.

We will see in this chapter that for all sequential sampling plans there exists a truncation point at which neither of the two specified error probabilities will be exceeded. In the chapter that follows, we will look for a way to truncate even earlier than that. There, however, we will have to allow most of the time some decrease in protection against the one or the other error.

A. EXISTENCE OF A NATURAL TRUNCATION POINT

We claim that for every sequential probability ratio sampling plan for a Bernoulli parameter, a sample number n_0 can be found at which the plan can be truncated and yet the specified error probabilities α and β are met. We will call this sample number n_0 the natural truncation point of the plan, since there is no reason to continue sampling beyond that point. The decision at the truncation point will be: If no acceptance has taken place up to and at the sample number n_0 , then reject the null hypothesis.

The support for the claim follows the outline of the last section where we analyzed the acceptance probabilities.

During the test process the probability of acceptance increases only at acceptance points $A_0, A_1, A_2, \dots$. With the null hypothesis true, the probability of acceptance $P_a(n|H_0)$ will equal or exceed the level $(1 - \alpha)$ at higher sample numbers. The smallest value of n for which this is true will be the natural truncation point n_0 .

We do not really need to consider here the probability of acceptance with the alternative hypothesis true because this probability $P_a(n|H_1)$ will at most insignificantly be greater than β . There remains to say that a still better result than the one given by natural truncation can be obtained when one alters the acceptance rule. Our goal is to cut down on necessary sample size even below the natural truncation point and still achieve as good a protection against errors as before. In cases where this is still not enough, we may allow one or the other error probability to increase but then always the true error probabilities shall be assessed.

IV. A SIMPLE EXTENDED ACCEPTANCE RULE

Up to now, the way by which we decided in a truncated sequential sampling plan whether to accept or to reject was that if no decision was made after the last sample was examined we rejected the null hypothesis. From here on, slightly more complicated acceptance rules will be allowed. They will be applied for decisions when the outcome of the final inspection would again lead to "continue sampling." A rule to include one or more of continue-sampling outcomes into the acceptance region will be called an extended acceptance rule.

A. DEFINITION OF THE ACCEPTANCE RULE

Reaching back to the graphical representation of the sequential-sampling chart as well as to our analysis of acceptance probabilities gives the basis for the following development. Let the natural truncation point n_0 be identical to the acceptance point A_k . Consider any sample number interval $[A_i, A_{i+1})$, $i = 0, 1, 2, \dots, (k-2)$, i.e., an interval where the acceptance point A_i is greater or equal to A_0 , and A_{i+1} is strictly smaller than the natural truncation point A_k . In such intervals, the acceptance decision can take place only at the acceptance number A_i , as was shown previously, and the decision to accept can be made

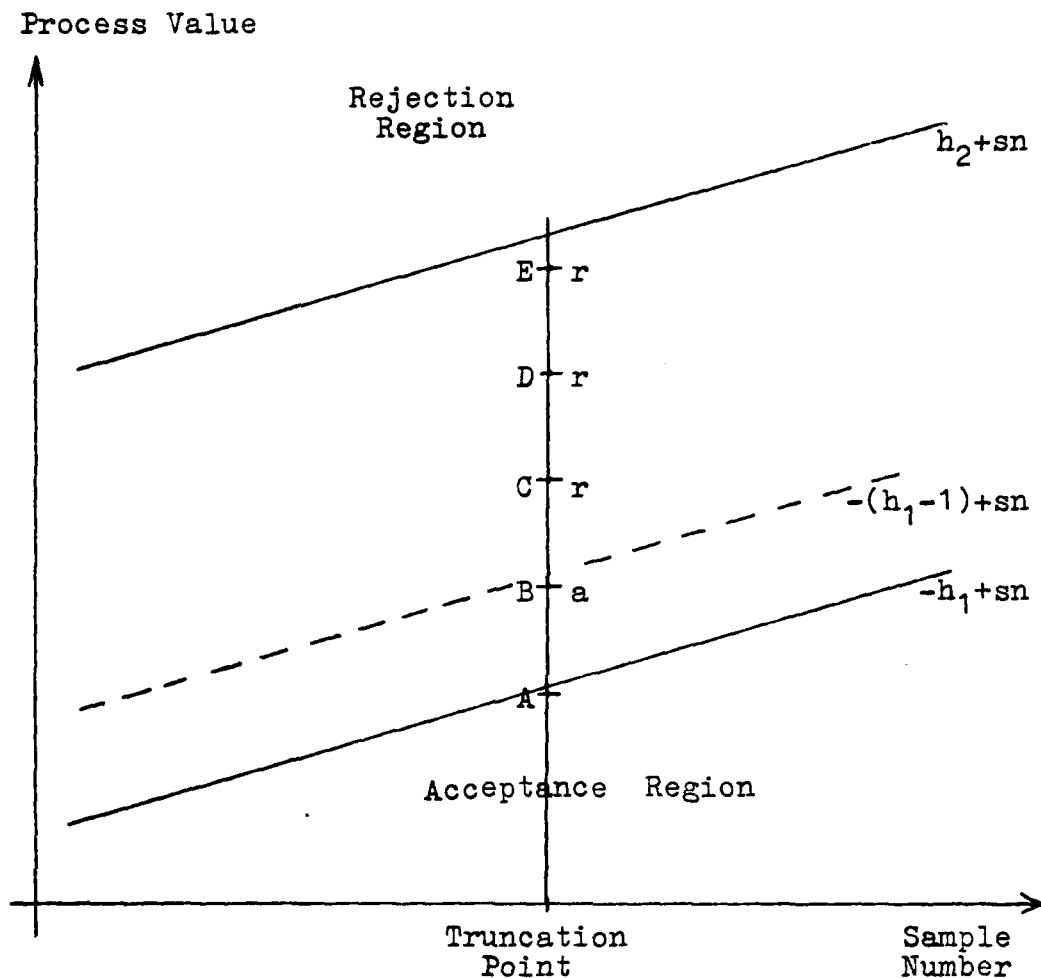
only if the value of the sampling process $X(n)$ at A_i is $X(A_i) = i$.

Suppose that the result of the A_i th sample tells us to continue sampling but the test is to be truncated at that sample number. If the outcome in the continue-sampling region is such that the process value is $X(A_i) = i + 1$ (the outcome closest to the acceptance region), then we will accept the null hypothesis. Otherwise, we will reject it. This acceptance rule will be called the $(h_1 - 1)$ rule since the final decision under this rule for a plan with plan parameter h_1 is the same as the final decision made with the non-extended acceptance rule but for a plan whose acceptance line intercept with the ordinate is $(h_1 - 1)$. (This is shown in Figure 4 by the dashed line.) We demonstrated the rule for a value of n equal to the acceptance point A_i but the rule can be applied for all sample numbers in the interval $[A_i, A_i + 1)$. Figure 4 shows schematically the assignment of sampling outcomes to the acceptance and rejection regions.

B. ACCEPTANCE PROBABILITIES INSIDE INTERVALS

In Chapter II, we worked with the overall picture of the sequential-sampling chart. Now we must have a close-up look at it.

The intervals $[A_i, A_i + 1)$, $i = 1, 2, 3, \dots$, defined by pairs of adjacent acceptance points, partition the sample



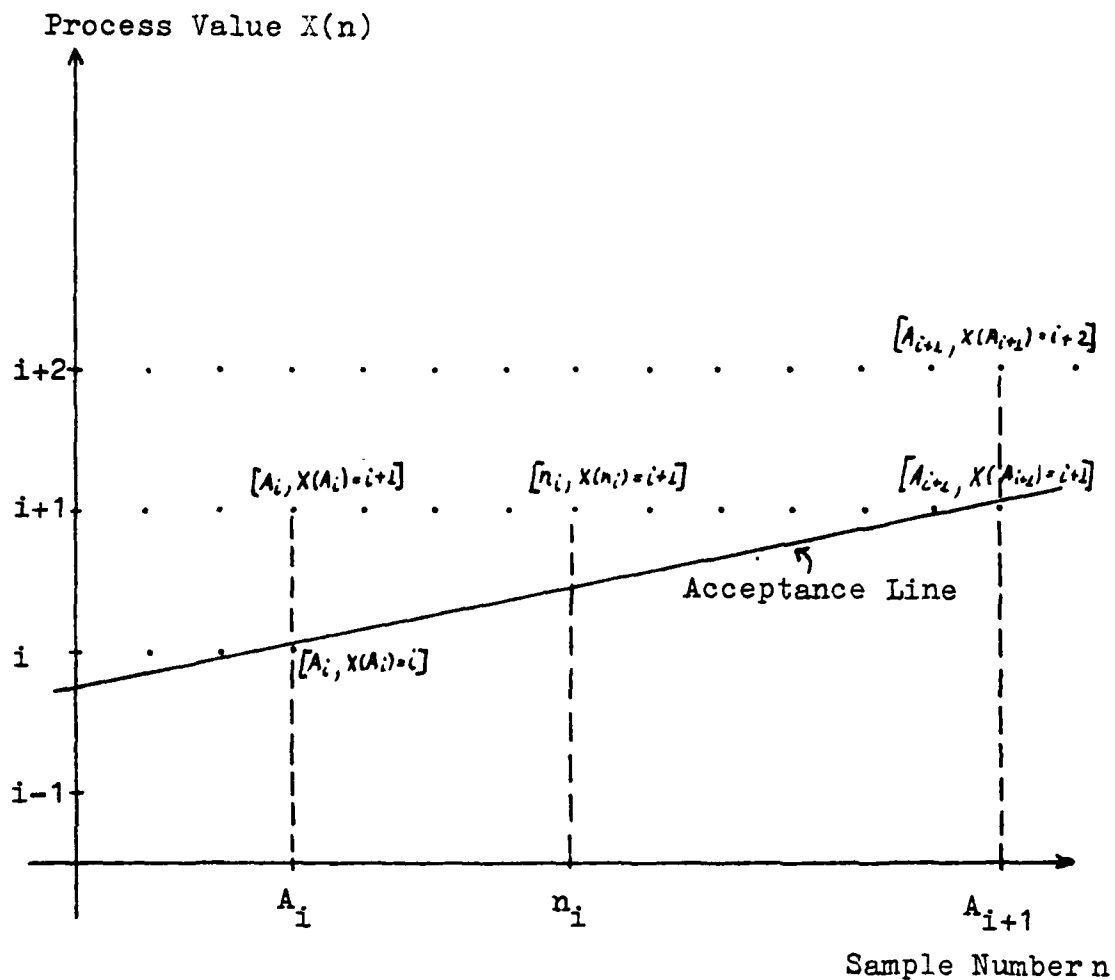
The points B,C,D and E represent the sampling outcomes of the continue-sampling region at the truncation point. Outcome B is described as the closest, outcome E as the farthest from the acceptance region. The (h_1-1) acceptance rule assigns B to the acceptance region (shown by "a") and C,D and E to the rejection region (shown by "r").

Figure 4 - SCHEME FOR ASSIGNING SAMPLING OUTCOMES AT THE TRUNCATION POINT (SIMPLE EXTENDED ACCEPTANCE RULE)

number axis. We are going to study the development of the probabilities of acceptance to get a picture of the effects that extending the acceptance rule will have on the probabilities and hence on the probabilities of errors. The intervals under consideration are only those that contain sample numbers smaller than the natural truncation point.

Figure 5 is an enlarged portion from a sequential-sampling chart. It will be needed for the derivation that follows. (It is a characteristic of charts used in quality control that the intervals $[A_i, A_{i+1})$ are quite large. Plans where the acceptance points are very close together or even adjacent may not give the results that will be derived in the following part of the paper.)

Earlier in the text, we defined $P_a(n)$ to be the probability of accepting the null hypothesis when at most n samples can be drawn. There a non-extended acceptance rule was in use. Now we denote with $P_a'(n)$ the acceptance probability that refers to the truncation under the simple extended $(h_1 - 1)$ acceptance rule. When we define a third probability, namely the probability that the sampling process reaches the lattice point $(n, X(n) = j)$, to be $P[X(n) = j]$, then the extended probability of acceptance for truncating at the acceptance point A_i , $i = 0, 1, 2, \dots$, will be



The lattice points that the test process is able to reach are represented by black dots. The sample number n_i shows the chosen truncation point. The acceptance points are A_i and A_{i+1} .

Figure 5 - DESCRIPTION OF THE LATTICE FIELD ON AN INTERVAL

$$P_a'(A_i) = P_a(A_i) + P[X(A_i) = i + 1], i = 0, 1, 2, \dots \quad (1)$$

Consider now that instead of A_i we truncate the sampling process at a sample number n_i inside the interval $[A_i, A_i + 1)$ and stay with the extended acceptance rule. There the probability of acceptance becomes

$$P_a'(n_i) = P_a(A_i) + P[X(n_i) = i + 1] \quad (2)$$

The probability that appears as the second part of the sum can be written as

$$P[X(n_i) = i + 1] = P[X(A_i) = i + 1](1 - p)^{n_i - A_i}, \quad (3)$$

since in order for the process to have the value $i + 1$ at the sample number $n = n_i$ it must be that the process already had this value at $n = A_i$. Here, p represents the true Bernoulli parameter. The second factor $(1 - p)^{n_i - A_i}$ follows from the fact that it takes the process $(n_i - A_i)$ failures to move from A_i to n_i .

The obtained probability (3) is a decreasing function in n_i , and thus as we choose truncation points further out in the $[A_i, A_i + 1)$ interval, the total probability of acceptance $P_a'(n_i)$ will decrease. Using (3), (2) becomes

$$P_a'(n_i) = P_a(A_i) + P[X(A_i) = i + 1](1 - p)^{n_i - A_i}.$$

We notice that if we allow $n_i = A_{i+1}$, then $P_a'(n_i) = P_a(A_i + 1)$.

Now we are ready to work toward a conclusion. Since $A_i + 1$ is strictly smaller than the natural truncation point, applying the non-extended acceptance rule with the null hypothesis H_0 true all acceptance probabilities obtainable up to $A_i + 1$ will be smaller than $(1 - \alpha)$. Equivalently with the alternative hypothesis H_1 true the probability of acceptance will be smaller or equal to the planned error probability β .

Once again we look at the case where the null hypothesis is true. Suppose that truncating at the acceptance point A_i under the simple extended $(h_1 - 1)$ acceptance rule yields a total probability of acceptance that exceeds the value $(1 - \alpha)$, i.e.,

$$P_a'(A_i | H_0) > 1 - \alpha .$$

However, for a truncation point n_i inside the interval $[A_i, A_i + 1)$ the total acceptance probability

$$P_a'(n_i) \text{ approaches } P_a(A_i + 1)$$

as

$$n_i \text{ approaches } A_i + 1 .$$

Together with the fact that

$$P_a(A_i + 1 | H_0) < 1 - \alpha$$

it must be that for rational values of n we are able to find a sample number n_i that will give us a probability of acceptance such that

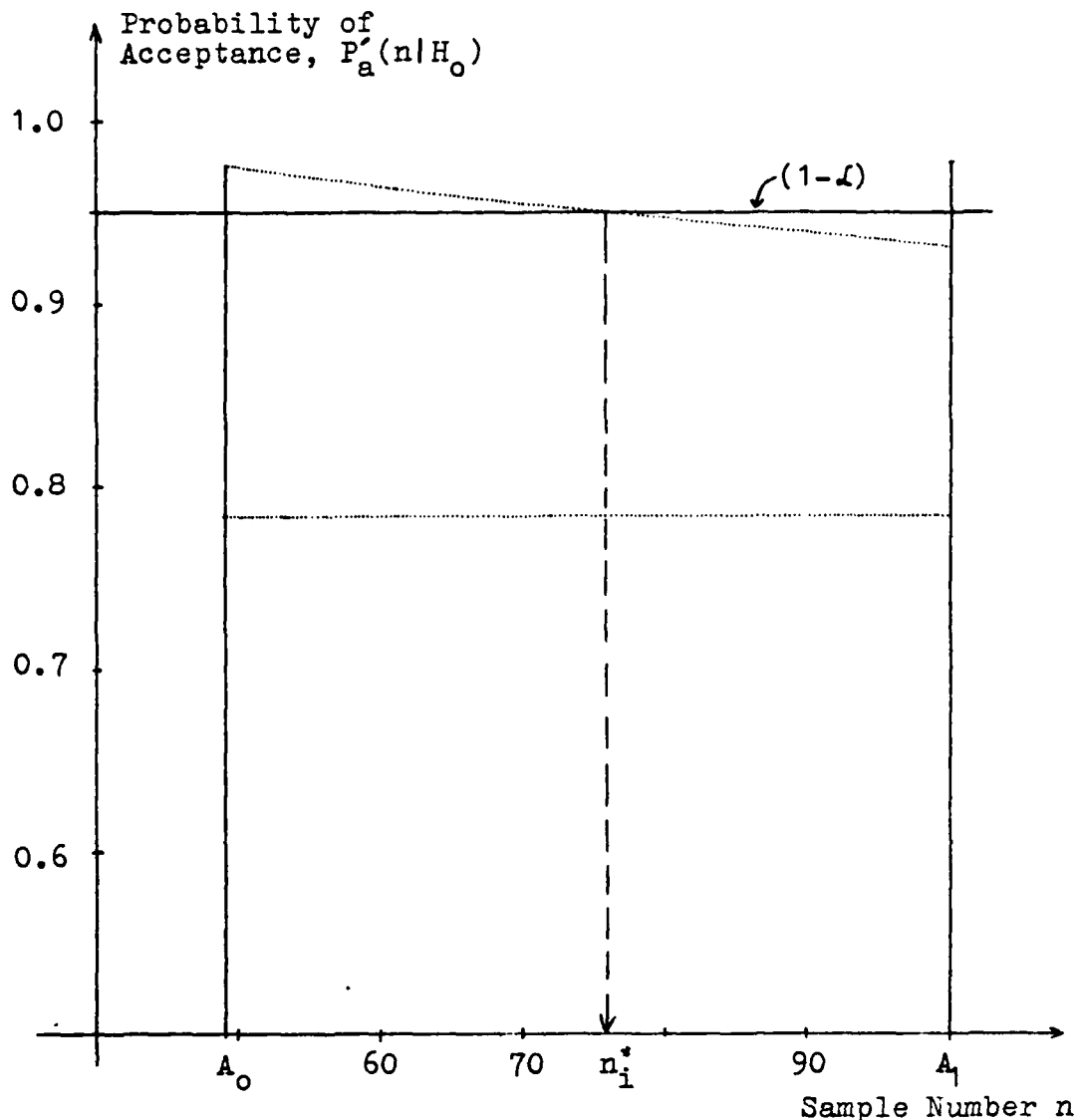
$$P_a'(n_i | H_0) = 1 - \alpha .$$

Let us integerize by cutting off decimal values and call the result n_i^* . This number will be a truncation point in the interval $[A_i, A_i + 1)$ that yields the closest value α' to the planned error probability α while not exceeding α . Figure 6 explains the derivation graphically.

In a similar manner the closest value to the desired probability of error of the second kind, β , can be found. Using the simple extended acceptance rule $(h_1 - 1)$ and truncating at the sample number n_i will yield the total acceptance probability $P_a'(n_i | H_1)$. As n_i increases through the interval the value of $P_a'(n_i | H_1)$ will decrease. So, when $P_a(A_i + 1 | H_1)$ is strictly smaller than β , we are able to find a smallest sample number n_i^{**} for which it is still true that

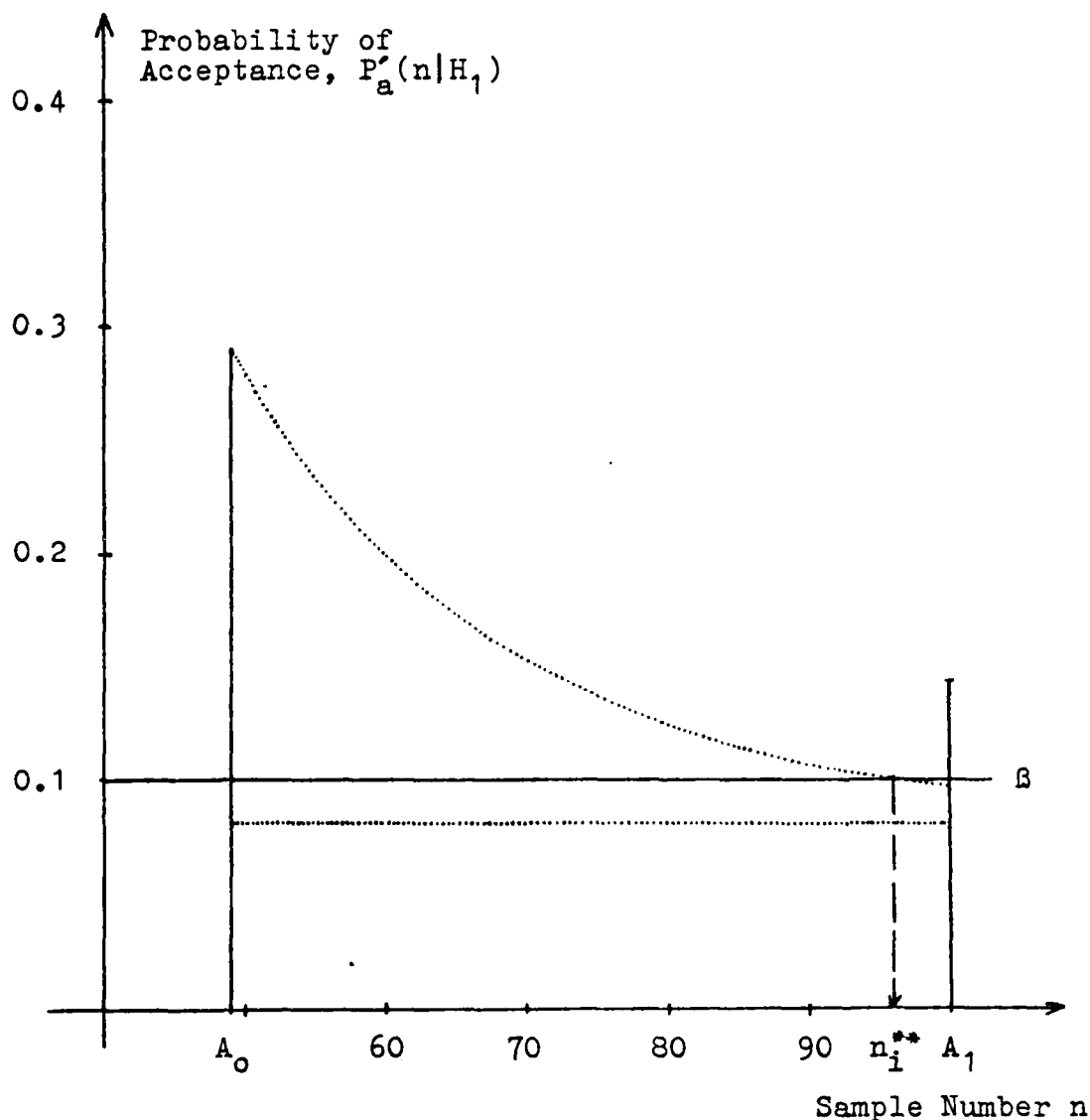
$$P_a'(n_i^{**}) \leq \beta .$$

The sample number n_i^{**} represents the earliest possible truncation point in the interval that will still assure the planned error probability β . Refer to Figure 7 for an example.



The graph shows the accumulated acceptance probability over the interval $[A_0, A_1)$ when H_0 is true and the simple extended acceptance rule is applied (upper curve). Values shown are for the test $H_0: p=0.005$, $H_1: p=0.05$, $\alpha=0.05$, $\beta=0.1$. For comparison the acceptance probability when the simple extended acceptance rule is not applied is shown (lower curve). Using the upper curve and choosing n_i^* as a truncation point yields a true error probability α' which is closest to α without exceeding it.

Figure 6 - ACCUMULATED ACCEPTANCE PROBABILITY WITH THE SIMPLE EXTENDED ACCEPTANCE RULE (NULL HYPOTHESIS TRUE)



The graph shows the accumulated acceptance probability over the interval $[A_0, A_1)$ for the test in Figure 6 when H_1 is true and the simple extended acceptance rule is applied (upper curve). For comparison the probability when the rule is not applied is shown (lower curve). Using the upper curve and choosing n_1^{**} as a truncation point yields a true error probability β' which is closest to β without exceeding it.

Figure 7 - ACCUMULATED ACCEPTANCE PROBABILITY WITH THE
SIMPLE EXTENDED ACCEPTANCE RULE (ALTERNATIVE TRUE)

Note that it need not be that the extended probability of acceptance for the left side interval limit point, $P_a'(A_i|H_1)$, is greater than or equal to β . If it is not greater than β then it is clear that $n_i^{**} = A_i$.

Also note that with H_0 true we have not talked about the smallest sample number that allows us to hold the error probability α but rather we talked about the largest sample size n_i^* that would do that. Obviously the smallest sample number for that purpose would likewise be equal to A_i but this definition would not be useful. Under an extended acceptance rule the true error probability β' will be much smaller and hence more favorable when we move further out in the interval.

Up to here we looked at the truncation points n_i^* and n_i^{**} separately. What happens to the true error probability β' when we truncate at the sample number n_i^* ? Conversely, what happens to α' when we truncate at n_i^{**} ? One can think of two possibilities:

- (i) Both of the planned error probabilities are satisfied or
- (ii) only one is satisfied and the other is exceeded.

In the following two sections we will investigate both possibilities.

C. HOLDING BOTH PLANNED ERROR PROBABILITIES

We showed in the last section that when the necessary assumptions to use the simple extended acceptance rule are satisfied the two special sample numbers n_i^* and n_i^{**} can be found for each interval leftward of the natural truncation point. At sample number n_i^* we are assured that when we truncate there the allowed error probability α will not be exceeded. This is the largest sample number that has this property in the interval. Similarly, n_i^{**} is the smallest sample number for which β is not exceeded. Thus, if $n_i^{**} \leq n_i^*$ for the interval $[A_i, A_i + 1)$, then we will have both planned error probabilities not exceeded when we truncate at a sample number n such that $n_i^{**} \leq n \leq n_i^*$.

For the experimenter the sample number n_i^{**} is the most favorable as it gives him the smallest required maximum sample size in the range of the considered interval while both planned error probabilities are met. When one looks at the computed results of truncation points in Appendix A, one can see that a great number of sequential sampling plans have at least one interval where n_i^{**} is smaller or equal to n_i^* . Those intervals are listed under "Hold Alpha and Beta." However, sometimes no such truncation points exist. For intervals closest to the natural truncation point this may be the case when at the natural truncation point the true error probability β' is not strictly smaller than β .

D. OPTIMAL TRUNCATION WITH ONE ERROR FIXED

We will now consider the case where the values of the two sample numbers n_i^* and n_i^{**} will be such that n_i^* is smaller than n_i^{**} . This implies that when one error probability is met the other is likely to be exceeded. An example was given back in Figures 6 and 7 where $n_1^* = 76$ and $n_1^{**} = 95$.

This gives rise to the following definition for an optimal way to truncate a sequential sampling process inside one of its intervals $[A_i, A_i + 1)$:

- (i) If holding the α -requirement is desired and flexibility with the β -requirement is allowed when using the sample number n_i^* as truncation point will be optimal in the sense that it gives the smallest actual error probability β' that can be obtained in the interval.
- (ii) Likewise, if the β -requirement must be met and the α -requirement can be handled more loosely, then truncating the process at the sample number n_i^{**} will yield optimality in the sense that the true error probability α' achieved will be the lowest possible for that interval.

This constrained optimality concept is rather powerful as it tells us that for sequential sampling plans, when the sample number axis is partitioned into sufficiently large intervals by the acceptance points, there exist within most

intervals "best" truncation points (depending on whether α or β is fixed).

The concept holds not only for the extended $(h_1 - 1)$ acceptance rule case but also for the higher order $(h_1 - m)$ cases, as will be shown later. The reason that we treated the $(h_1 - 1)$ acceptance rule separately and extensively is that first, it is the easiest to analyze and second, it is the easiest to calculate numerically: Once a basic computer program has been set up that describes the sampling process numerically at the acceptance points, a simple formula can be employed to calculate the sample numbers n_i^* and n_i^{**} exactly for each interval $[A_i, A_i + 1)$. The explicit formulae to calculate the two numbers will be developed in the section that follows.

E. FORMULAE FOR OPTIMAL TRUNCATION

Earlier we suggested that optimal truncation points can be found for sequential sampling plans where the simple extended $(h_1 - 1)$ acceptance rule is applicable. The formulae that we will derive in the following paragraphs will yield numerical values for the optimal truncation points n_i^* and n_i^{**} . At the end of the section special situations employing these formulae are discussed.

Suppose numerical values for the following expressions are given:

(i) $[A_i, A_i + 1)$, $i = 1, 2, 3, \dots, (k - 2)$, which represents an interval on the sample number axis and where A_k refers to the acceptance point that is the natural truncation point.

(ii) $P_a(A_i|H_0)$ and $P_a(A_i|H_1)$, the unextended probabilities of accepting the null hypothesis accumulated during the sampling process up to and including the A_i 'th sample.

(iii) $P[X(A_i) = i + 1|H_0]$ and $P[X(A_i) = i + 1|H_1]$ denote the probabilities that at the sample number A_i the sampling process has the value $(i + 1)$ for the respective hypothesis.

Let us first consider the case where the null hypothesis H_0 is true. Under the $(h_1 - 1)$ acceptance rule we wish to find n_i^* , the optimal truncation point to hold the error probability α . We restrict ourselves to test plans where the total acceptance probability P_a' is such that

$$P_a'(A_i|H_0) = P_a(A_i|H_0) + P[X(A_i) = i + 1|H_0] > (1 - \alpha) .$$

Thus it must be for the optimal truncation point on the interval $[A_i, A_i + 1)$ that

$$P_a(A_i|H_0) + P[X(A_i) = i + 1|H_0](1 - P_0)^{n_i - A_i} \geq (1 - \alpha) .$$

where P_0 is the Bernoulli parameter under the null hypothesis.

Solving this for the optimal truncation point n_i^* leads to

$$(1 - P_0)^{n_i - A_i} \leq \frac{1 - \alpha - P_a(A_i | H_0)}{P[X(A_i) = i+1 | H_0]},$$

and after taking logarithms to

$$\begin{aligned} n_i^* &= \text{int} \left[\frac{\log(1 - \alpha - P_a(A_i)) + A_i \log(1 - P_0) - \log(P[X(A_i) = i+1])}{\log(1 - P_0)} \right] \\ &= \text{int} \left[A_i + \frac{\log(1 - \alpha - P_a(A_i)) - \log(P[X(A_i) = i+1])}{\log(1 - P_0)} \right]. \end{aligned}$$

where $\text{int}[]$ denotes the integer function and all values are obtained for the case where the null hypothesis H_0 is true.

When the alternative hypothesis H_1 is true, we wish to find n_i^{**} , the optimal truncation point to hold the error probability β . If

$$P_a'(A_i | H_1) = P_a(A_i | H_1) + P[X(A_i) = i+1 | H_1] (1 - P_1)^{n_i - A_i} \geq \beta,$$

then, in a manner similar to the previous derivation, we obtain

$$n_i^{**} = \text{int} \left[A_i + \frac{\log(\beta - P_a(A_i)) - \log(P[X(A_i) = i+1])}{\log(1 - P_1)} + 1 \right],$$

where again $\text{int}[]$ represents the integer function and all values are calculated with the alternative hypothesis true. The parameter P_1 is the one hypothesized under H_1 .

Implementing these formulae on a computer involves little difficulty and thus the numbers n_i^* and n_i^{**} can easily be obtained. (We will see later that when more extended acceptance rules are used, the values cannot be explicitly calculated and we will have to search for them along the interval.)

Up to now we have not touched the interval $[A_{k-1}, A_k)$ which lies directly before the natural truncation point A_k . The use of the derived formulae is restricted in this interval. The formula for n_i^* , the optimal truncation point to hold α , is never valid in this interval because from the definition of the natural truncation point n_0 and the $(h_i - 1)$ acceptance rule, $P_a'(n_i|H_0)$ approaches $P_a(n_0|H_0)$ from above as n_i approaches n_0 from the left. This implies, however, that the true error probability α' will always be smaller than or equal to α regardless of where we truncate in the interval. The formula for n_i^{**} , the optimal truncation point to hold β , is not valid, when at the natural truncation point the true error probability β' is not strictly less than the planned β . No optimal truncation point exists in this case because β' will exceed β regardless where we truncate in the interval with the $(h_1 - 1)$ acceptance rule.

In the following chapter we will, different from the approach in this chapter, include more outcomes of the continue-sampling region at the truncation point into the acceptance region and look for implications that arise.

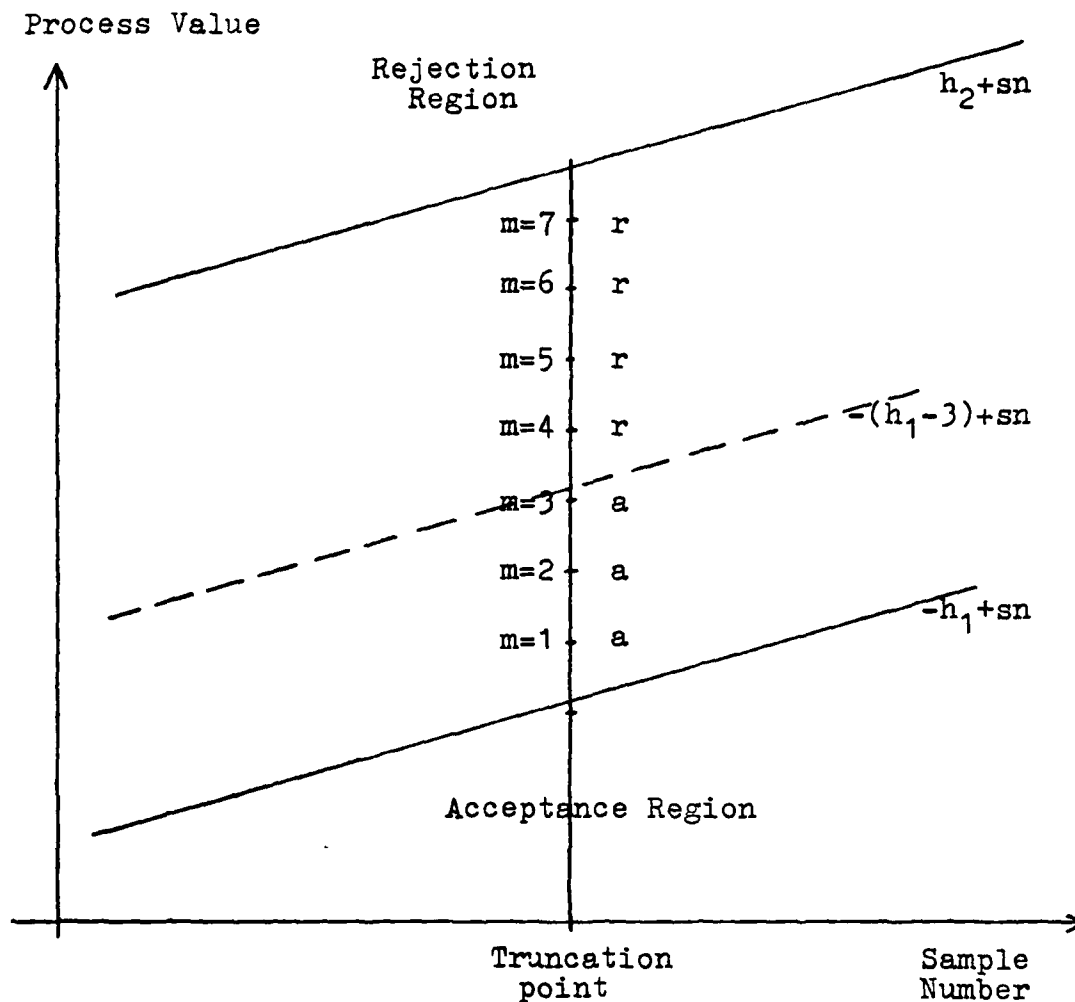
V. GENERAL EXTENDED ACCEPTANCE RULES

When one wants to use natural truncation one will recognize that this rule will still yield relatively large maximum sample sizes. In practical tests an experimenter might be forced to cut sampling somewhere far below that range of sample sizes that allow for natural truncation. Also, one might encounter sequential sampling plans that are not suitable for the simple extended acceptance rule because there is not enough probability mass that is added to the acceptance probability when only the closest continue-sampling outcome is included into the acceptance region. Do we have to give up the search for useful truncation points then? The answer is "no" but before we work on that answer let us describe what we mean by a general extended acceptance rule.

A. DESCRIPTION

Suppose that the sequential test is to be truncated at the sample number n_i where n_i is contained in the acceptance point interval $[A_i, A_i + 1)$. Furthermore, suppose that the outcome of the n_i th sample is "continue sampling." If this outcome is such that the process value $X(n_i)$ satisfies

$$i < X(n_i) \leq i + m ,$$



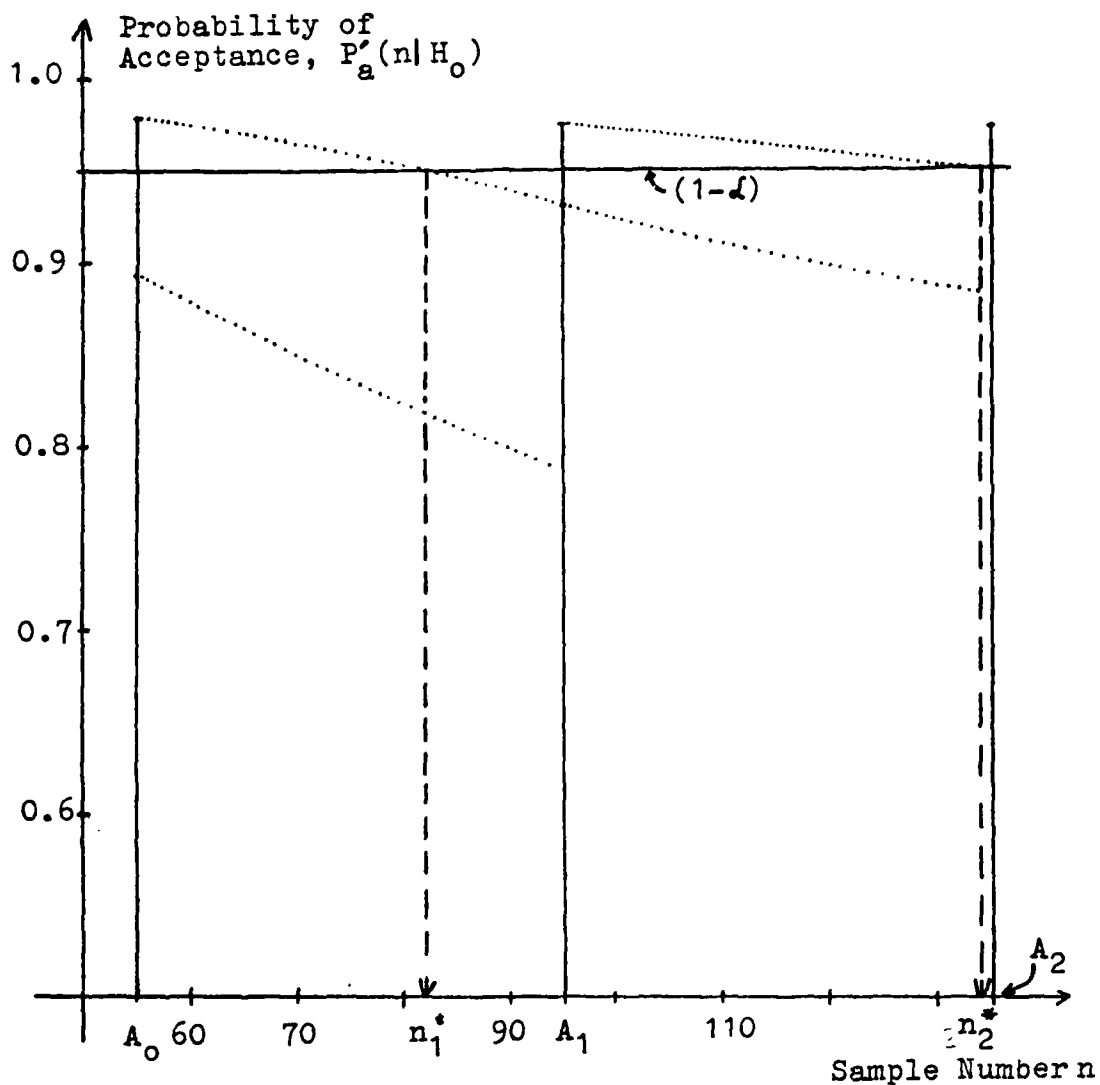
The points $m=1, 2, \dots, 7$ represent sampling outcomes in the continue-sampling region at the truncation point. The general extended acceptance rule $(h_1 - m)$ with $m=3$ assigns the outcomes $m=1, 2$ and 3 to the acceptance region (shown by "a") and the outcomes $m=4, 5, 6$ and 7 to the rejection region (shown by "r").

Figure 8 - SCHEME FOR ASSIGNING SAMPLING OUTCOMES AT THE TRUNCATION POINT (GENERAL EXTENDED ACCEPTANCE RULE)

where m is an integer greater than i , then we include this outcome into the acceptance region and accept the null hypothesis. Otherwise we reject the null hypothesis. We could denote this acceptance rule by $(h_1 - m)$ in general and, substituting integer values for m , $m = 1, 2, 3, \dots$; $(h_1 - 1)$, $(h_1 - 2)$, $(h_1 - 3)$, ... in particular. Figure 8 shows the scheme of assigning sampling outcomes to the acceptance and rejection regions for the $(h_1 - 3)$ acceptance rule.

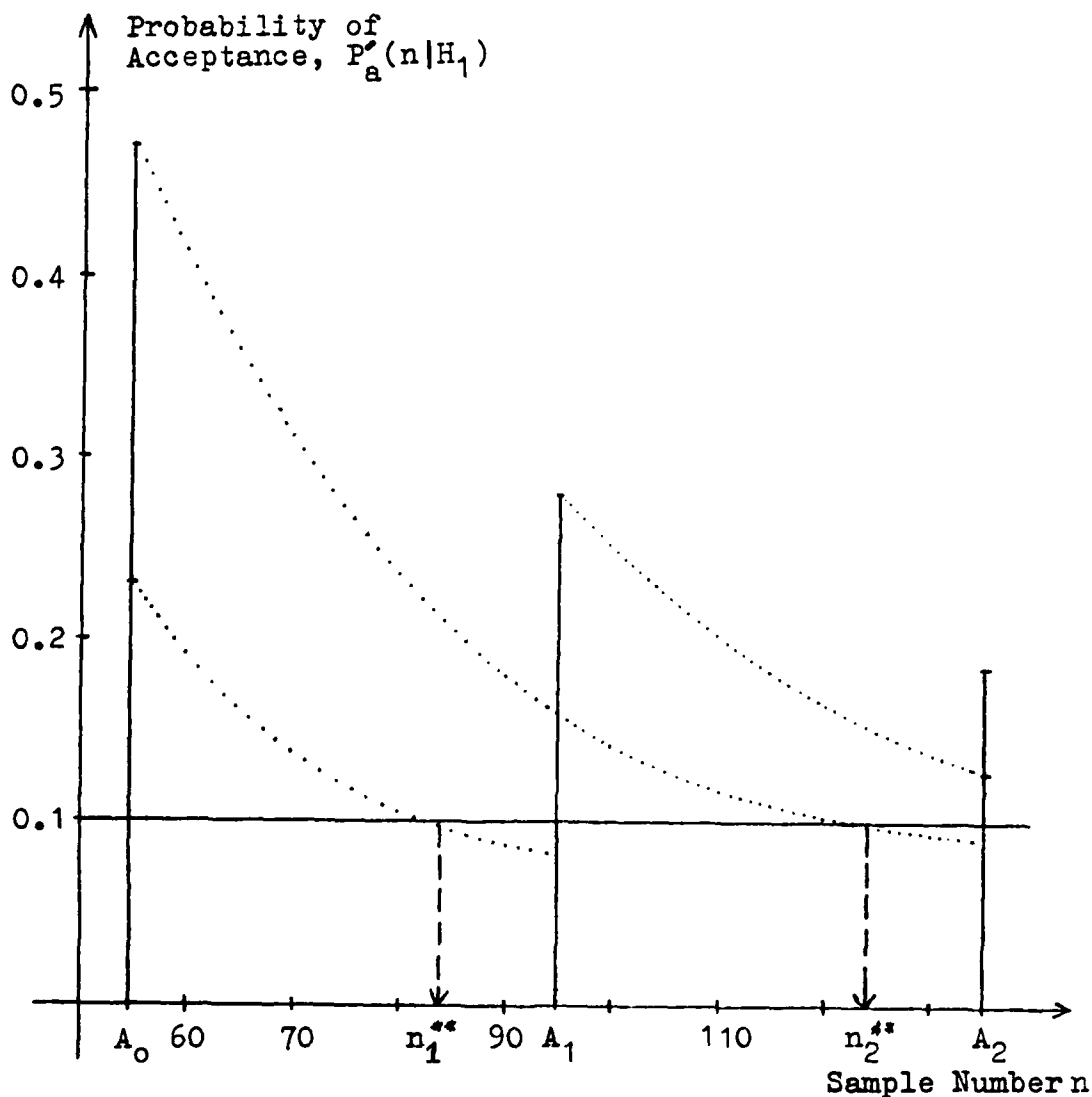
B. EXTENDED ACCEPTANCE OPTIMAL TRUNCATION

Now we will look closer at the actual probabilities of acceptance as they are implied by general extended acceptance rules. The basic approach to the analysis resembles the one in Section C in Chapter II and Section B of Chapter IV. In the former chapter the general picture was given and in the latter the simple extended acceptance rule was derived. From Figure 9 where the null hypothesis is true, it can be seen that on the interval $[A_0, A_1)$ as well as on the interval $[A_1, A_2)$, the necessary acceptance rule must be the $(h_1 - 2)$ rule in order to hold the α -requirement somewhere in each interval. Figure 10, however, with the alternative hypothesis true, shows that the $(h_1 - 2)$ acceptance rule overshoots the β -requirement at all sample numbers contained in the intervals. This pattern will become worse when an even higher order acceptance rule is applied.



The graph shows the accumulated acceptance probability for the test $H_0: p=0.01$, $H_1: p=0.05$, $\alpha=0.05$, $\beta=0.1$ when H_0 is true and the acceptance rule (h_1-2) is applied (upper curve). For comparison the respective probability with the (h_1-1) rule is shown (lower curve). Optimal truncation points are $n_1^*=82$ and $n_2^*=134$ when the upper curve is used. True error probabilities β are 0.22 and 0.13 respectively.

Figure 9 - ACCUMULATED ACCEPTANCE PROBABILITY WITH A
GENERAL EXTENDED ACCEPTANCE RULE (NULL HYPOTHESIS TRUE)



The graph shows the accumulated acceptance probability for the test in Figure 9 when H_1 is true and the acceptance rule (h_1-2) is applied (upper curve). For comparison the respective probability with the (h_1-1) rule is shown (lower curve). Optimal truncation to hold β requires use of the lower curve. Truncation points are then $n_1^{**}=84$, $n_2^{**}=124$ and the true error probabilities α' are 0.19 and 0.10 respectively.

Figure 10 - ACCUMULATED ACCEPTANCE PROBABILITY WITH A
GENERAL EXTENDED ACCEPTANCE RULE (ALTERNATIVE TRUE)

What implications do the results have for the concept of optimal truncation? We will work it out for the case that we are not allowed to exceed the planned error probability α .

Suppose we have the acceptance point interval $[A_i, A_i + 1)$, and let truncation occur at the sample number n_i inside the interval. We seek an extended acceptance rule $(h_1 - m)$ that will satisfy the α -requirement. Associated with this rule will be a true error probability β' . An optimal result (the smallest achievable true error probability β') will be obtained when the parameter m is as small an integer as possible. Note that this will automatically result in the single extended acceptance rule $(h_1 - 1)$ if it is applicable. It follows then that it is generally consistent to denote the found optimal truncation point for the interval $[A_i, A_i + 1)$ by n_i^* as we did it earlier.

When we have to hold the β -requirement then we work along nearly the same path: Instead of selecting the smallest possible parameter m for the general extended acceptance rule $(h_1 - m)$ we will search for the largest value. This in turn gives the smallest true error probability α' at the truncation point n_i^{**} .

We see that the optimal truncation concept is not lost with general extended acceptance rules. The simple extended $(h_1 - 1)$ acceptance rule is merely a special case of the general rule.

The next chapter provides a comprehensive review of the results of this paper. Appendix A gives numerical values of natural and optimal truncation points for a wide range of sequential sampling plans that are useful in quality control.

VI. RESULTS

The starting point is Wald's Sequential Probability Ratio test procedure to test for a Bernoulli parameter P_0 . The objective of this study was to investigate the influence of test truncation on the true probabilities of error of the first and second kind compared to the desired errors, and to recommend truncation rules and acceptance rules when limiting the sample size is necessary.

It was shown that a natural truncation point exists for every sampling plan, and it may be found by numerical methods on a computer. Stopping the test at the plan's natural truncation point n_0 and rejecting the null hypothesis when an acceptance decision has not yet occurred gives the assurance that both planned error probabilities are satisfied. Sampling beyond the natural truncation point is not necessary. (In Appendix A the natural truncation points are given for each considered sequential sampling plan.)

During the sampling process decisions about accepting the null hypothesis are possible at acceptance points. These points partition the sample number axis into intervals. Extended acceptance rules, which are applied at a truncation point, allow to meet the planned probability of error of the first kind at any desired truncation point. Under an extended acceptance rule, m of the most adjacent sampling

outcomes of the continue-sampling region at the final sample are included into the acceptance region. The decision rule then is that if no acceptance decision can be made the null hypothesis should be rejected.

This rule increases the true probability of error of the second kind. Using a suitable extended acceptance rule will for most intervals result in truncation points that give the following protection against errors:

- (1) The planned probability of error of the first kind are met, but the one of the second kind is exceeded.
- (2) The planned probability of error of the second kind is met, but the one of the first kind is exceeded.
- (3) Both planned probabilities of error are met.

In Case (1) an optimal truncation point exists when the smallest value for m is used that still results in the planned probability of error of the first kind when the null hypothesis is true. The truncation point is optimal in the sense that the planned probability of error of the first kind is satisfied while the smallest obtainable true probability of error of the second kind is achieved. (In Appendix A those truncation points are listed under "Hold Alpha.")

In Case (2) an optimal truncation point exists when the value for m is used that, when the alternative hypothesis is true, will make the true probability of error of the second

kind smaller or equal to the planned one. Optimality means that here the true probability of error of the first kind is as small as possible for any truncation point on that interval while the planned probability of error of the second kind is satisfied. (In Appendix A those truncation points are listed under "Hold Beta.")

The protection as described in Case (3) occurs when Case (1) and Case (2) use the same m -value for the extended acceptance rule and the optimal truncation point from Case (2) is smaller or equal to the optimal truncation point in Case (1). (The smallest sample number that results is listed in Appendix A under "Hold Alpha and Beta.") When the value of m can be set equal to 1.0 then the numerical calculations are simplified and the analysis is quite easy.

A limitation on the methods described may come up in connection with test plans outside quality control whenever acceptance points of the plan are very close together or even next to each other. However, the natural truncation concept will always be valid.

This study did not assess the average amount of inspection necessary to obtain a decision when the recommended truncation rules are applied. One reason is that the used computer algorithm is not applicable for the necessary calculations. We suggest the investigation of this topic using some algorithm like the one described by Corneliussen

and Ladd in Ref. 3. It is hoped that this work will not only be useful to those working with quality control problems, but will also generate interest in further studies in this area.

APPENDIX A

TABULATED VALUES FOR NATURAL AND OPTIMAL TRUNCATION POINTS

On the following pages 126 sequential plans are listed.
Sets of α - and β - values considered are:

$$\alpha = 0.05, \quad \beta = 0.05,$$

$$\alpha = 0.05, \quad \beta = 0.1,$$

$$\alpha = 0.1, \quad \beta = 0.1.$$

Values of the parameters P_0 and P_1 are for each set:

$$P_0 = 0.005, P_1 = 0.01 \text{ through } 0.1 \text{ (increments of } 0.01),$$

$$P_0 = 0.010, P_1 = 0.02 \text{ through } 0.1 \text{ (increments of } 0.01),$$

$$P_0 = 0.015, P_1 = 0.03 \text{ through } 0.1 \text{ (increments of } 0.01),$$

$$P_0 = 0.020, P_1 = 0.03 \text{ through } 0.1 \text{ (increments of } 0.01),$$

$$P_0 = 0.025, P_1 = 0.04 \text{ through } 0.1 \text{ (increments of } 0.01).$$

For the meaning of "natural truncation point" and the column headings "Hold Alpha and Beta," "Hold Alpha" and "Hold Beta" refer to Chapter VI. All acceptance point intervals are listed for each test starting from the natural truncation point downwards to A_0 . The abbreviation "undef." in the column "Hold Alpha and Beta" means that no truncation point that satisfies at least one of the planned error probabilities can be found.

PG=0.0050	ALFA=C.050	H1= 4.217	S=0.007216
PI=0.0100	BETA=C.050	H2= 4.217	ASD=2492

NATURAL TRUNCATION POINT= 5712	TRUE ALFA= C.0493
	TRUE BETA= C.0499

SAMPLE NUMBER	F C L C	A L F A	A N S	B E T A
INTERVAL	ACCEPTANCE	BEST TRUNC	TRUE	TRUE
FROM	TO	POINT	ALFA	BETA
5574	5712	5621	0.0486	C.0500
5436	5573	5458	0.0494	C.0500

SAMPLE NUMBER	F C L D	A L F A	H O L D	B E T A
INTERVAL	ACPT RULE	BEST TRUNC	TRJNC	TRUE
FROM	TO	POINT	ALFA	BETA
5297	5435	5435	0.0499	C.0500
5158	5296	5274	0.0500	C.0500
5020	5157	5069	0.0500	C.0500
4881	5019	5019	0.0499	C.0501
4743	4880	4876	0.0500	0.0511
4604	4742	4690	0.0500	0.0512
4465	4603	4510	0.0500	0.0513
4327	4464	4334	0.0500	0.0514
4188	4326	4126	0.0500	0.0514
4050	4187	4161	0.0500	0.0516
3911	4049	3991	0.0500	0.0518
3773	3910	3823	0.0500	0.0611
3634	3772	3658	0.0500	0.0614
3495	3633	3495	0.0500	0.0616
3357	3494	3334	0.0500	0.0618
3218	3356	3334	0.0500	0.0713
3080	3217	3174	0.0500	0.0719
2941	3079	3017	0.0500	0.0815
2802	2940	2860	0.0500	0.0913
2664	2801	2705	0.0500	0.1013
2525	2663	2552	0.0500	0.1113
2387	2524	2400	0.0500	0.1216
2248	2386	2248	0.0500	0.1411
2109	2247	2247	0.0500	0.1411
1971	2108	2099	0.0500	0.1517
1832	1970	1950	0.0500	0.1716
1694	1831	1802	0.0500	0.1918
1555	1693	1655	0.0500	0.2213
1417	1554	1509	0.0500	0.2511
1278	1416	1364	0.0500	0.2813
1139	1277	1220	0.0500	0.3210
1001	1138	1077	0.0500	0.3611
862	1000	935	0.0500	0.4017
724	861	795	0.0500	0.4518
585	723	657	0.0500	0.5115

PC=0.0050 ALFA=C.050 HI=2.101 S=0.010839
 PI=0.0200 BETA=C.050 H2=2.101 ASN=411

NATURAL TRUNCATION POINT= 932 TRUE ALFA= C.0438
 TRUE BETA= C.0500

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A	
INTERVAL	ACCEPTANCE	BEST TRUNC	TRUE	TRUE	
FROM	TO	ELIE M	PCINT	ALFA	BETA
840	931	1	930	C.0437	C.0500
748	839	1	816	C.0498	C.0500

SAMPLE NUMBER		F C L D	A L F A		F C L D	B E T A	
INTERVAL		ACPT RULE	BEST TRUNC	TRUE	ACPT RULE	BEST TRUNC	TRUE
FROM	TO	M	PCINT	ALFA	M	PCINT	BETA
656	747	2	713	C.0444	1	713	C.0600
563	655	2	616	C.0500	1	616	C.0760
471	562	2	521	C.0500	1	521	C.1003
379	470	2	427	C.0500	1	427	C.1460
287	378	3	378	C.0490	1	334	C.2170
194	286	3	269	C.0500	1	242	C.3320

PC=0.0050 ALFA=C.050 HI=1.620 S=0.014003
 PI=0.0300 BETA=C.050 H2=1.620 ASN=190

NATURAL TRUNCATION POINT= 402 TRUE ALFA= C.0460
 TRUE BETA= C.0496

SAMPLE NUMBER		F C L D	A L F A	A N D	B E T A
INTERVAL		ACCEPTANCE	BEST TRUNC	TRUE	TRUE
FROM	TO	ELLE M	PCINT	ALFA	BETA
330	401	1	392	0.0451	0.0500

SAMPLE NUMBER		F C L D		A L F A		H C L D		B E T A	
INTERVAL		ACPT	BEST	TRUE		ACPT	BEST	TRUE	
		RULE	TRUNC	ALFA	BETA	RULE	TRUNC	ALFA	BETA
FROM	TO	M	PCINT			M	PCINT		
259	329	1	267	C.0500	C.0630	1	315	C.0630	C.0500
183	258	2	258	C.0470	C.0680	1	242	C.1040	C.0500
116	187	2	159	C.0500	C.1430	1	170	C.1920	C.0490

PC=0.0050 ALFA=C.050 HI=1.392 S=0.016929
 PI=0.0400 BETA=C.050 H2=1.392 ASN=116

NATURAL TRUNCATION POINT= 260 TRUE ALFA= C.0386
 TRUE BETA= C.0492

SAMPLE NUMBER		F C L D	A L F A	A N D	B E T A
INTERVAL		ACCEPTANCE	BEST TRUNC	TRUE	FILE
FROM	TO	FILE	PCINT	ALFA	BETA
201	259		249	0.0391	0.0500

SAMPLE NUMBER		F	C	L	D	A		L	F	A	H	C	L	D	B		E	T	A
INTERVAL		ACPT	BEST	TRUNC		TRUE	TRUE	ACPT	BEST	TRUNC	TRUE	TRUE	ACPT	BEST	TRUNC	TRUE	TRUE		
FROM	TO	RULE	PCINT	PCINT		ALFA	BETA	RULE	POINT	POINT	ALFA	BETA	RULE	POINT	POINT	ALFA	BETA		
142	200	1	163			C.050C	C.062	1	190		C.0610	C.0500	1	190		C.0610	C.0500		
83	141	2	141			C.040C	C.067	1	132		C.1250	C.0500	1	132		C.1250	C.0500		

PO=0.0050	ALFA=C.050	H1=1.254	S=0.019703
PI=0.0500	BETA=C.050	H2=1.254	ASN=51

NATURAL TRUNCATION POINT=	166	TRUE ALFA=	0.0430
		TRUE BETA=	0.0493

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPANCE	BEST TRUNC	TRUE	TRUE
FROM	TO	PCINT	ALFA	BETA
112	165	162	0.0420	0.0499

SAMPLE NUMBER	F C L D	A L F A	H C L D	B E T A
INTERVAL	ACPT	BEST	ACPT	BEST
FROM	TO	PCINT	ALFA	BETA
64	114	71	0.0430	0.0493

PO=0.0050	ALFA=C.050	H1=1.158	S=0.022371
PI=0.0600	BETA=C.050	H2=1.158	ASN=61

NATURAL TRUNCATION POINT=	142	TRUE ALFA=	0.0316
		TRUE BETA=	0.0501

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPANCE	BEST TRUNC	TRUE	TRUE
FROM	TO	PCINT	ALFA	BETA
97	141	-UNDEF.-	-UNDEF.-	-UNDEF.-

SAMPLE NUMBER	F C L D	A L F A	H C L D	B E T A
INTERVAL	ACPT	BEST	ACPT	BEST
FROM	TO	PCINT	ALFA	BETA
52	96	74	0.0490	0.0500

PO=0.0050	ALFA=C.050	H1=1.088	S=0.024960
PI=0.0700	BETA=C.050	H2=1.088	ASN=49

NATURAL TRUNCATION POINT=	124	TRUE ALFA=	0.0246
		TRUE BETA=	0.0500

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPANCE	BEST TRUNC	TRUE	TRUE
FROM	TO	PCINT	ALFA	BETA
84	123	-UNDEF.-	-UNDEF.-	-UNDEF.-

SAMPLE NUMBER	F C L D	A L F A	H C L D	B E T A
INTERVAL	ACPT	BEST	ACPT	BEST
FROM	TO	PCINT	ALFA	BETA
44	83	80	0.0500	0.0500

PO=0.0050	ALFA=C.050	HI=1.033	S=0.027485
PI=0.0900	BETA=C.050	H2=1.033	ASN=32

NATURAL TRUNCATION POINT=	74	TRUE ALFA=	C.0417
		TRUE BETA=	C.0490

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPIANCE	BEST TRUNC	TRUE	TRUE
FROM	TO	FILE	M	POINT
38	73	1	1	73
				0.0410
				0.0496

PC=0.0050	ALFA=C.050	HI=0.988	S=0.029969
PI=0.0900	BETA=C.050	H2=0.988	ASN=33

NATURAL TRUNCATION POINT=	67	TRUE ALFA=	C.0335
		TRUE BETA=	C.0504

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPIANCE	BEST TRUNC	TRUE	TRUE
FROM	TO	FILE	M	POINT
33	66	-UNDEF.-	-UNDEF.-	-UNDEF.-
				-UNDEF.-
				-UNDEF.-

PC=0.0050	ALFA=C.050	HI=0.951	S=0.032411
PI=0.1000	BETA=C.050	H2=0.951	ASN=29

NATURAL TRUNCATION POINT=	61	TRUE ALFA=	C.0323
		TRUE BETA=	C.0476

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPIANCE	BEST TRUNC	TRUE	TRUE
FROM	TO	FILE	M	POINT
30	60	1	1	58
				0.0307
				0.0495

PO=0.0100	ALFA=C.CEC	H1= 4.187	S=0.014435
PI=0.0200	BETA=C.C50	H2= 4.187	ASN=1232

NATURAL TRUNCATION POINT= 2654	TRUE ALFA= C.C485
	TRUE BETA= C.C498

SAMPLE NUMBER INTERVAL		H C L D ACCEPTANCE RULE	A L F A BEST TRUNC POINT	A N D TRUE ALFA	B E T A TRUE BETA
FROM	TO				
2784	2853	1	2784	0.0477	C.C500
2715	2783	1	2772	0.0500	0.0497
2646	2714	1	2646	0.0500	0.0499
2577	2645	2	2634	0.0496	C.C500

SAMPLE NUMBER INTERVAL		F C L C ACPT RULE	A L F A BEST TRUNC POINT	H O L D ACPT RULE	B E T A TRUE BETA
FROM	TO				
2507	2576	2	2541	2	2561
2438	2506	2	2443	2	2498
2369	2437	2	2437	2	2416
2299	2368	2	2349	2	2344
2230	2298	2	2259	2	2273
2161	2229	2	2170	2	2202
2092	2160	2	2160	2	2131
2022	2091	2	2083	2	2061
1953	2021	2	1998	2	1990
1884	1952	2	1914	2	1920
1815	1883	2	1831	2	1850
1745	1814	2	1749	2	1790
1676	1744	2	1744	2	1710
1607	1675	2	1669	2	1640
1537	1606	2	1589	2	1570
1468	1536	2	1510	2	1501
1399	1467	2	1431	2	1431
1330	1398	2	1354	2	1362
1260	1329	2	1277	2	1292
1191	1259	2	1201	2	1222
1122	1190	2	1125	2	1153
1053	1121	2	1121	2	1084
983	1052	2	1050	2	1014
914	982	2	976	2	945
845	913	2	902	2	875
775	844	2	828	2	806
706	774	2	755	2	737
637	705	2	683	2	667
568	636	2	610	2	598
498	567	2	539	2	528
429	497	2	468	2	458
360	428	2	398	2	386
291	359	2	329	2	313

$PG=0.0100$ | $ALFA=C.050$ | $H1=2.631$ | $S=C.01823$
 $PI=0.0300$ | $BETA=C.050$ | $H2=2.631$ | $ASN=335$

NATURAL TRUNCATION POINT= 853 | TRUE ALFA= C.0476
 TRUE BETA= C.0496

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACPT RULE	BEST TRUNC	TRUE ALFA	TRUE BETA
FROM TO	RULE M	POINT		
803 857	1	825	0.0458	C.0500
748 802	1	767	0.0495	C.0500

SAMPLE NUMBER	F C L D	A L F A	F C L D	B E T A
INTERVAL	ACPT RULE	BEST TRUNC	ACPT RULE	BEST TRUNC
FROM TO	RULE M	POINT	RULE M	POINT
693 747	2	747	1	710
638 692	2	678	1	654
583 637	2	596	1	598
529 582	3	582	1	542
474 528	3	522	1	437
419 473	3	451	1	432
364 418	3	383	1	377
309 363	3	318	1	322
254 308	3	256	1	267
200 253	4	253	1	212
145 199	4	155	1	157

$PG=0.0100$ | $ALFA=C.050$ | $H1=2.078$ | $S=0.021715$
 $PI=0.0400$ | $BETA=C.050$ | $H2=2.078$ | $ASN=203$

NATURAL TRUNCATION POINT= 465 | TRUE ALFA= C.0432
 TRUE BETA= C.0500

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACPT RULE	BEST TRUNC	TRUE ALFA	TRUE BETA
FROM TO	RULE M	POINT		
419 464	1	463	0.0431	C.0500
372 413	1	407	0.0490	C.0500

SAMPLE NUMBER	F C L D	A L F A	F C L D	B E T A
INTERVAL	ACPT RULE	BEST TRUNC	ACPT RULE	BEST TRUNC
FROM TO	RULE M	POINT	RULE M	POINT
326 371	2	371	1	335
280 325	2	322	1	307
234 279	2	253	1	259
188 233	2	191	1	213
142 187	3	187	1	166
96 141	3	134	1	120

PO=0.0100	ALFA=C.050	H1= 1.784	S=C.024535
PI=0.0500	BETA=C.050	H2= 1.784	ASN= 139

NATURAL TRUNCATION POINT= 272	TRUE ALFA= C.0476
	TRUE BETA= C.0489

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPANCE	BEST TRUNC	TRUE	TRUE
FROM	TO	POINT	ALFA	BETA
232	271	257	0.0449	0.0499

SAMPLE NUMBER	F C L D	A L F A	H O L D	B E T A
INTERVAL	ACPT	BEST	ACPT	BEST
FROM	RULE	TRUNC	RULE	TRUNC
	M	POINT	M	POINT
192	231	194	1	217
152	191	191	1	178
112	151	133	1	136
72	111	81	1	98

PO=0.0100	ALFA=C.050	H1= 1.597	S=0.028111
PI=0.0600	BETA=C.050	H2= 1.597	ASN= 93

NATURAL TRUNCATION POINT= 200	TRUE ALFA= C.0451
	TRUE BETA= C.0455

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPANCE	BEST TRUNC	TRUE	TRUE
FROM	TO	POINT	ALFA	BETA
164	199	194	0.0439	0.0499

SAMPLE NUMBER	F C L D	A L F A	H O L D	B E T A
INTERVAL	ACPT	BEST	ACPT	BEST
FROM	RULE	TRUNC	RULE	TRUNC
	M	POINT	M	POINT
128	163	134	1	156
93	127	127	1	120
57	92	80	1	94

PO=0.0100	ALFA=C.050	H1= 1.466	S=0.031129
PI=0.0700	BETA=C.050	H2= 1.466	ASN= 71

NATURAL TRUNCATION POINT= 144	TRUE ALFA= C.0457
	TRUE BETA= C.0475

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPANCE	BEST TRUNC	TRUE	TRUE
FROM	TO	POINT	ALFA	BETA
112	143	132	0.0450	0.0498

SAMPLE NUMBER	F C L D	A L F A	H O L D	B E T A
INTERVAL	ACPT	BEST	ACPT	BEST
FROM	RULE	TRUNC	RULE	TRUNC
	M	POINT	M	POINT
80	111	111	1	103
43	79	79	1	73

PO=0.0100	ALFA=C.050	HI=1.363	S=0.034064
PI=0.0800	BETA=C.050	H2=1.368	ASN=56

NATURAL TRUNCATION PCINT= 129	TRUE ALFA= C.0383
	TRUE BETA= C.0480

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPTANCE	BEST TRUNC	TRUE	TRUE
FROM	TO	PCINT	ALFA	BETA
99	128	118	0.0359	0.1328

SAMPLE NUMBER	F C L D	A L F A	H O L D	B E T A
INTERVAL	ACPT RULE	BEST TRUNC	ACPT RULE	BEST TRUNC
FROM	TO	PCINT	ALFA	BETA
70	98	82	0.0500	0.0500
41	69	69	0.0380	0.0680

PO=0.0100	ALFA=C.050	HI=1.291	S=0.036932
PI=0.0900	BETA=0.050	H2=1.291	ASN=46

NATURAL TRUNCATION PCINT= 117	TRUE ALFA= C.0329
	TRUE BETA= 0.0497

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPTANCE	BEST TRUNC	TRUE	TRUE
FROM	TO	PCINT	ALFA	BETA
90	116	114	0.0324	0.0499
63	89	87	0.0491	0.0497

SAMPLE NUMBER	F C L D	A L F A	F C L D	B E T A
INTERVAL	ACPT RULE	BEST TRUNC	ACPT RULE	BEST TRUNC
FROM	TO	PCINT	ALFA	BETA
32	62	45	0.0430	0.1030

PO=0.0100	ALFA=C.050	HI=1.228	S=0.039747
PI=0.1000	BETA=C.050	H2=1.228	ASN=39

NATURAL TRUNCATION PCINT= 82	TRUE ALFA= C.0419
	TRUE BETA= C.0490

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPTANCE	BEST TRUNC	TRUE	TRUE
FROM	TO	PCINT	ALFA	BETA
57	81	79	0.0404	0.0499

SAMPLE NUMBER	F C L D	A L F A	H O L D	B E T A
INTERVAL	ACPT RULE	BEST TRUNC	ACPT RULE	BEST TRUNC
FROM	TO	PCINT	ALFA	BETA
31	56	36	0.0500	0.1160

PO=0.0150	ALFA=C.050	H1= 4.156	S=0.021559
PI=0.0300	BETA=C.050	H2= 4.156	ASS= 315

NATURAL TRUNCATION POINT= 1854	TRUE ALFA= 0.0493
	TRUE BETA= 0.0495

SAMPLE NUMBER INTERVAL		F C L D ACCEPANCE	A L F A BEST TRUNC	A M D TRUE ALFA	B E T A TRUE BETA
FROM	TO	FILE M	POINT		
1808	1853	2	1839	0.0468	0.0500
1762	1807	1	1770	0.0500	0.0497
1716	1761	2	1744	0.0487	0.0500
1670	1715	2	1657	0.0499	0.0500

SAMPLE NUMBER INTERVAL		F C L D ACPT FILE M	A L F A BEST TRUNC TRUE ALFA	A L F A TRUE BETA	H C L D ACPT RULE M	B E T A BEST TRUNC TRUE ALFA	B E T A TRUE BETA
FROM	TO		POINT			POINT	
1624	1669	2	1632	0.0500	2	1650	0.0500
1577	1623	2	1623	0.0499	2	1603	0.0500
1531	1576	2	1569	0.0500	2	1556	0.0500
1485	1530	2	1508	0.0500	2	1510	0.0500
1439	1484	2	1448	0.0500	2	1463	0.0500
1393	1438	4	1438	0.0499	2	1416	0.0500
1347	1392	4	1390	0.0500	2	1370	0.0500
1300	1345	4	1333	0.0500	2	1323	0.0500
1254	1299	4	1277	0.0500	2	1277	0.0500
1208	1253	4	1222	0.0500	2	1230	0.0500
1162	1207	4	1167	0.0500	2	1134	0.0500
1116	1161	4	1161	0.0499	2	1138	0.0500
1070	1115	5	1113	0.0500	2	1091	0.0500
1023	1069	5	1060	0.0500	2	1045	0.0500
977	1022	5	1007	0.0500	2	999	0.0500
931	976	5	955	0.0500	2	952	0.0500
885	930	5	903	0.0500	2	906	0.0500
839	884	5	852	0.0500	2	860	0.0500
793	838	5	801	0.0500	2	814	0.0500
746	792	5	751	0.0500	2	767	0.0500
700	745	5	701	0.0500	2	721	0.0500
654	699	6	659	0.0499	2	675	0.0500
608	653	6	651	0.0500	2	629	0.0500
562	607	6	602	0.0500	2	593	0.0500
516	561	6	552	0.0500	2	536	0.0500
469	515	6	504	0.0500	2	490	0.0500
423	468	6	455	0.0500	2	444	0.0500
377	422	6	407	0.0499	2	398	0.0499
331	376	6	360	0.0500	2	351	0.0500
285	330	6	312	0.0499	2	304	0.0500
239	284	6	266	0.0500	2	257	0.0500
192	238	6	220	0.0500	2	208	0.0500

PC=0.0150	ALFA=C.050	H1= 2.925	S=0.025541
PI=0.0400	BETA=C.050	H2= 2.925	ASN= 343

NATURAL TRUNCATION POINT= 781	TRUE ALFA= 0.0473
	TRUE BETA= C.0455

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPTANCE	BEST TRUNC	TRUE	TRUE
FROM	RULE	PCINT	ALFA	BETA
741	780	1	0.0456	C.0500
702	740	1	0.0481	C.0500

SAMPLE NUMBER	F C L D	A L F A	F C L D	B E T A
INTERVAL	ACPT	BEST TRUNC	ACPT	BEST TRUNC
FROM	RULE	PCINT	RULE	PCINT
		ALFA		BETA
663	701	2	671	0.051
624	662	2	630	0.055
585	623	2	590	0.061
546	584	2	551	0.068
507	545	2	511	0.076
467	506	2	471	0.087
428	466	2	432	0.102
389	427	2	393	0.121
350	388	4	353	0.144
311	349	4	314	0.175
272	310	4	275	0.214
232	271	4	236	0.265
193	231	4	197	0.332
154	192	4	157	0.415
115	153	4	117	0.525

PC=0.0150	ALFA=C.050	H1= 2.374	S=0.029174
PI=0.0500	BETA=C.050	H2= 2.374	ASN= 199

NATURAL TRUNCATION POINT= 425	TRUE ALFA= C.0456
	TRUE BETA= C.0452

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPTANCE	BEST TRUNC	TRUE	TRUE
FROM	RULE	PCINT	ALFA	BETA
390	424	1	0.0468	C.0500

SAMPLE NUMBER	F C L D	A L F A	F C L D	B E T A
INTERVAL	ACPT	BEST TRUNC	ACPT	BEST TRUNC
FROM	RULE	PCINT	RULE	PCINT
		ALFA		BETA
356	389	1	368	0.053
322	355	1	334	0.061
288	321	1	300	0.074
253	287	1	265	0.091
219	252	1	231	0.117
185	218	1	197	0.155
150	184	1	163	0.211
115	149	1	128	0.285
82	115	1	94	0.405

PC=0.0150 ALFA=C.050
PI=0.0600 BETA=C.050

H1= 2.055 S=0.032631
H2= 2.055 ASN= 123

NATURAL TRUNCATION POINT= 278 TRUE ALFA= C.0495
TRUE BETA= C.0494

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPTANCE	BEST TRUNC	TRUE	TRUE
FROM	TO	PCINT	ALFA	BETA
247	277	267	0.0474	0.0500

SAMPLE NUMBER	F C L D	A L F A	F C L D	B E T A
INTERVAL	ACPT RULE	BEST TRUNC	ACPT RULE	BEST TRUNC
FROM	TO	PCINT	FROM	TO
217	246	246	235	235
186	216	216	203	203
155	185	169	172	172
125	154	128	141	141
94	124	124	110	110
63	93	90	80	80

PC=0.0150 ALFA=C.050
PI=0.0700 BETA=C.050

H1= 1.843 S=0.035953
H2= 1.843 ASN= 97

NATURAL TRUNCATION POINT= 219 TRUE ALFA= C.0492
TRUE BETA= C.0484

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPTANCE	BEST TRUNC	TRUE	TRUE
FROM	TO	PCINT	ALFA	BETA
191	218	201	0.0397	0.0499
163	190	176	0.0492	0.0499

SAMPLE NUMBER	F C L D	A L F A	F C L D	B E T A
INTERVAL	ACPT RULE	BEST TRUNC	ACPT RULE	BEST TRUNC
FROM	TO	PCINT	FROM	TO
135	162	162	150	150
107	134	128	123	123
80	106	89	96	96
52	79	54	69	69

PO=J.0150	ALFA=C.050	H1=1.690	S=0.037134
PI=0.0300	BETA=C.050	H2=1.690	ASN=75

NATURAL TRUNCATION POINT= 171	TRUE ALFA= C.0415
	TRUE BETA= C.0481

SAMPLE NUMBER		F C L D		A L F A		A N D		B E T A	
INTERVAL		ACCEPTANCE	BEST TRUNC	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE
FROM	TO	RULE	PCINT	ALFA	BETA	ALFA	BETA	ALFA	BETA
146	170	1	156	0.0381	0.0499				
129	145	1	134	0.0499	0.0497				

SAMPLE NUMBER		F C L D		A L F A		F C L D		B E T A	
INTERVAL		ACPT	BEST	TRUE	TRUE	ACPT	BEST	TRUE	TRUE
FROM	TO	RULE	TRUNC	ALFA	BETA	RULE	TRUNC	ALFA	BETA
		M	PCINT			M	POINT		
95	119	2	119	0.042	0.059	1	110	0.073	0.050
69	94	2	89	0.050	0.080	1	86	0.122	0.049
44	68	2	54	0.050	0.182	1	61	0.219	0.049

PO=J.0150	ALFA=C.050	H1=1.574	S=0.042330
PI=0.0900	BETA=C.050	H2=1.574	ASN=61

NATURAL TRUNCATION POINT= 132	TRUE ALFA= C.0443
	TRUE BETA= C.0478

SAMPLE NUMBER		F C L D		A L F A		A N D		B E T A	
INTERVAL		ACCEPTANCE	BEST TRUNC	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE
FROM	TO	RULE	PCINT	ALFA	BETA	ALFA	BETA	ALFA	BETA
109	131	1	120	0.0409	0.0499				

SAMPLE NUMBER		F C L D		A L F A		F C L D		B E T A	
INTERVAL		ACPT	BEST	TRUE	TRUE	ACPT	BEST	TRUE	TRUE
FROM	TO	RULE	TRUNC	ALFA	BETA	RULE	TRUNC	ALFA	BETA
		M	PCINT			M	POINT		
85	108	1	89	0.049	0.059	1	100	0.058	0.050
61	84	2	84	0.045	0.067	1	78	0.097	0.049
33	60	2	53	0.049	0.134	1	55	0.185	0.049

PO=J.0150	ALFA=C.050	PI=1.482	S=0.045410
PI=0.1000	BETA=C.050	H2=1.482	ASN=50

NATURAL TRUNCATION POINT= 121	TRUE ALFA= C.0375
	TRUE BETA= C.0450

SAMPLE NUMBER		F C L D		A L F A		A N D		B E T A	
INTERVAL		ACCEPTANCE	BEST TRUNC	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE
FROM	TO	RULE	PCINT	ALFA	BETA	ALFA	BETA	ALFA	BETA
99	120	1	113	0.0358	0.0500				
77	98	1	93	0.0486	0.0429				

SAMPLE NUMBER		F C L D		A L F A		F C L D		B E T A	
INTERVAL		ACPT	BEST	TRUE	TRUE	ACPT	BEST	TRUE	TRUE
FROM	TO	RULE	TRUNC	ALFA	BETA	RULE	TRUNC	ALFA	BETA
		M	PCINT			M	POINT		
55	76	2	76	0.037	0.067	1	72	0.080	0.050
33	54	2	53	0.049	0.097	1	50	0.157	0.050

PC=0.0200 ALFA=C.050
PI=0.0300 BETA=C.050

H1=7.383 S=0.02472
H2=7.383 ASN=2004

NATURAL TRUNCATION POINT=5111 TRUE ALFA=C.0493
TRUE BETA=C.0493

SAMPLE NUMBER INTERVAL		F C L D ACCEPTANCE		A L F A BEST TRUNC		A N D TRUE		E F T A TRUE	
FROM	TO	RULE	M	PC	TRUNC	ALFA		BETA	
5073	5110			5084		0.0479		C.0500	
5030	5069			5043		0.0481		C.0500	
4989	5029			4992		0.0500		C.0498	
4949	4988			4960		0.0485		C.0500	
4908	4948			4919		0.0487		C.0500	
4868	4907			4877		0.0500		C.0493	
4827	4867			4837		0.0491		C.0500	
4787	4826			4795		0.0493		C.0500	
4746	4786			4754		C.0496		C.0500	
4706	4745			4713		C.0495		C.0500	

SAMPLE NUMBER INTERVAL		F C L D ACPT		A L F A BEST TRUNC		F C L D ACPT		E F T A TRUE	
FROM	TO	RULE	M	PC	TRUNC	RULE	M	ALFA	BETA
4665	4705	3		4668	C.0500	3		C.0500	C.0500
4625	4664	4		4664	C.0500	3		C.0500	C.0500
4584	4624	4		4618	C.0500	3		C.0500	C.0500
4543	4583	4		4569	C.0500	3		C.0500	C.0500
4503	4542	4		4520	C.0500	3		C.0500	C.0500
4462	4502	4		4471	C.0500	3		C.0500	C.0500
4422	4461	4		4422	C.0500	3		C.0500	C.0500
4381	4421	5		4421	C.0500	3		C.0500	C.0500
4341	4380	5		4374	C.0500	3		C.0500	C.0500
4300	4340	5		4327	C.0500	3		C.0500	C.0500
4260	4299	5		4279	C.0500	3		C.0500	C.0500
4219	4259	5		4232	C.0500	3		C.0500	C.0500
4179	4218	5		4185	C.0500	3		C.0500	C.0500
4138	4178	5		4138	C.0500	3		C.0500	C.0500
4098	4137	6		4137	C.0500	3		C.0500	C.0500
4057	4097	6		4091	C.0500	3		C.0500	C.0500
4017	4056	6		4045	C.0500	3		C.0500	C.0500
3976	4016	6		3999	C.0500	3		C.0500	C.0500
3935	3975	6		3952	C.0500	3		C.0500	C.0500
3895	3934	6		3906	C.0500	3		C.0500	C.0500
3854	3894	6		3861	C.0500	3		C.0500	C.0500
3814	3853	6		3815	C.0500	3		C.0500	C.0500
3773	3813	7		3774	C.0500	3		C.0500	C.0500
3733	3772	7		3724	C.0500	3		C.0500	C.0500
3692	3732	7		3679	C.0500	3		C.0500	C.0500
3652	3691	7		3634	C.0500	4		C.0500	C.0500
3611	3651	7		3589	C.0500	4		C.0500	C.0500
3571	3610	7		3544	C.0500	4		C.0500	C.0500
3530	3570	7		3499	C.0500	4		C.0500	C.0500
3490	3529	7		3454	C.0500	4		C.0500	C.0500
3449	3489	7		3408	C.0500	4		C.0500	C.0500
3409	3448	7		3367	C.0500	4		C.0500	C.0500
3368	3408	8		3326	C.0500	4		C.0500	C.0500
3328	3367	8		3285	C.0500	4		C.0500	C.0500
3287	3327	8		3244	C.0500	4		C.0500	C.0500
3246	3286	8		3203	C.0500	4		C.0500	C.0500
3206	3245	8		3162	C.0500	4		C.0500	C.0500
3165	3205	8		3121	C.0500	4		C.0500	C.0500
3125	3164	8		3080	C.0500	4		C.0500	C.0500
3084	3124	8		3039	C.0500	4		C.0500	C.0500
3044	3083	8		2998	C.0500	4		C.0500	C.0500

323	368	10	348	0.050	0.647	4	348	0.657	0.050
288	327	10	310	0.050	0.671	4	303	0.726	0.050

PO=0.0200	ALFA=0.050	F1=4.125	S=0.022383
PI=0.0400	BETA=0.050	F2=4.125	ASN=600

NATURAL TRUNCATION FCINT= 1389	TRUE ALFA= 0.0495
	TRUE BETA= 0.0495

SAMPLE NUMBER INTERVAL		F C L D ACCEPTANCE FULL M	A L F A BEST TRUNC FCINT	A N D TRUE ALFA	B E T A TRUE BETA
1355	1389	2	1372	0.0462	0.0500
1320	1354	1	1333	0.0500	0.0495
1286	1319	2	1302	0.0481	0.0500
1251	1285	2	1268	0.0493	0.0500

SAMPLE NUMBER INTERVAL		F C L D ACPT RULE	A L F A BEST TRUNC FCINT	A L F A TRUE ALFA	A L F A TRUE BETA	F C L D ACPT RULE	B E T A BEST TRUNC POINT	B E T A TRUE ALFA	B E T A TRUE BETA
1216	1250	2	1227	0.0500	0.0500	2	1233	0.0511	0.0500
1182	1215	2	1215	0.0495	0.0511	2	1198	0.0522	0.0500
1147	1181	2	1179	0.0500	0.0511	2	1164	0.0544	0.0500
1113	1146	2	1133	0.0500	0.0511	2	1129	0.0566	0.0500
1078	1112	2	1088	0.0500	0.0511	2	1094	0.0588	0.0500
1043	1077	2	1044	0.0500	0.0511	2	1059	0.0600	0.0500
1009	1042	4	1042	0.0500	0.0511	2	1025	0.0633	0.0500
974	1008	4	1001	0.0500	0.0511	2	990	0.0666	0.0500
939	973	4	959	0.0500	0.0511	2	956	0.0700	0.0500
905	938	4	917	0.0500	0.0511	2	921	0.0744	0.0500
870	904	4	876	0.0500	0.0511	2	886	0.0788	0.0500
836	869	4	836	0.0500	0.0700	2	852	0.0833	0.0500
801	835	5	835	0.0500	0.0700	2	817	0.0900	0.0500
766	800	5	756	0.0500	0.0711	2	732	0.0966	0.0500
732	765	5	756	0.0500	0.0822	2	748	0.1044	0.0500
697	721	5	717	0.0500	0.0833	2	713	0.1113	0.0500
663	696	5	678	0.0500	0.0833	2	676	0.1222	0.0500
628	662	5	639	0.0500	0.1099	2	644	0.1344	0.0500
593	627	5	601	0.0500	0.1211	2	609	0.1466	0.0500
559	592	5	563	0.0500	0.1355	2	575	0.1611	0.0500
524	558	5	526	0.0500	0.1511	2	540	0.1788	0.0500
489	523	5	489	0.0500	0.1655	2	505	0.1966	0.0500
455	488	5	488	0.0495	0.1711	2	471	0.2188	0.0500
420	454	6	451	0.0495	0.1933	2	436	0.2411	0.0500
385	419	6	415	0.0500	0.2155	2	402	0.2700	0.0500
351	385	6	378	0.0500	0.2455	2	367	0.3011	0.0500
316	350	6	342	0.0500	0.2766	2	332	0.3366	0.0500
282	315	6	306	0.0500	0.3122	2	298	0.3788	0.0495
247	281	6	270	0.0500	0.3544	2	263	0.4244	0.0495
213	246	6	234	0.0495	0.4033	2	228	0.4777	0.0495
179	212	6	199	0.0495	0.4554	2	192	0.5333	0.0500
143	177	6	165	0.0495	0.5088	2	156	0.6055	0.0495

$PO=0.0200$ | $ALFA=0.050$ | $H1=3.108$ | $S=0.037817$
 $PI=0.0500$ | $BETA=0.050$ | $F2=3.108$ | $ASN=304$

NATURAL TRUNCATION POINT= 674 | TRUE ALFA= 0.0494
 TRUE BETA= 0.0492

SAMPLE NUMBER INTERVAL		F C L D ACCEPTANCE	BEST	ALFA TRUNC	AND TRUE	BETA TRUE
FROM	TO	FILE	M	POINT	ALFA	BETA
644	673	2		668	0.0443	0.0500
613	643	1		619	0.0500	0.0495
583	612	2		609	0.0486	0.0500

SAMPLE NUMBER INTERVAL		F C L D ACPT RULE	BEST TRUNC POINT	ALFA TRUE	BETA TRUE	ACPT RULE	BEST TRUNC POINT	ALFA TRUE	BETA TRUE
FROM	TO	M				M			
552	582	2	570	0.0500	0.0501	2	579	0.0502	0.0500
522	551	2	526	0.0500	0.0503	2	549	0.0505	0.0500
491	521	2	521	0.0499	0.0504	2	519	0.0500	0.0500
461	490	3	485	0.0500	0.0507	2	489	0.0500	0.0500
430	460	3	445	0.0500	0.0502	2	459	0.0503	0.0500
400	429	3	406	0.0500	0.0507	2	429	0.0502	0.0500
369	399	3	369	0.0500	0.0503	2	398	0.0503	0.0500
339	368	4	368	0.0499	0.0504	2	368	0.0507	0.0500
309	338	4	333	0.0500	0.0503	2	338	0.0505	0.0500
278	308	4	297	0.0499	0.0501	2	308	0.0507	0.0500
248	277	4	263	0.0500	0.0507	2	277	0.0507	0.0500
217	247	4	229	0.0500	0.0503	2	247	0.0508	0.0500
187	216	4	195	0.0499	0.0501	2	216	0.0509	0.0500
156	186	4	163	0.0500	0.0504	2	186	0.0503	0.0500
126	155	4	130	0.0499	0.0501	2	155	0.0508	0.0500
95	125	4	99	0.0499	0.0504	2	125	0.0504	0.0499

$PO=0.0200$ | $ALFA=0.050$ | $H1=2.582$ | $S=0.036543$
 $PI=0.0500$ | $BETA=0.050$ | $F2=2.582$ | $ASN=189$

NATURAL TRUNCATION POINT= 427 | TRUE ALFA= 0.0486
 TRUE BETA= 0.0490

SAMPLE NUMBER INTERVAL		F C L D ACCEPTANCE	BEST	ALFA TRUNC	AND TRUE	BETA TRUE
FROM	TO	FILE	M	POINT	ALFA	BETA
400	426	2		426	0.0408	0.0500
372	399	1		391	0.0492	0.0490

SAMPLE NUMBER INTERVAL		F C L D ACPT RULE	BEST TRUNC POINT	ALFA TRUE	BETA TRUE	ACPT RULE	BEST TRUNC POINT	ALFA TRUE	BETA TRUE
FROM	TO	M				M			
345	371	2	371	0.0486	0.0500	1	348	0.0502	0.0500
317	344	2	341	0.0500	0.0501	1	321	0.0508	0.0500
290	316	2	300	0.0500	0.0506	1	295	0.0508	0.0500
263	289	3	289	0.0499	0.0501	1	268	0.0500	0.0500
235	262	3	262	0.0500	0.0505	1	241	0.0508	0.0500
208	234	3	226	0.0500	0.0502	1	214	0.0501	0.0500
181	207	3	192	0.0500	0.0509	1	187	0.0504	0.0500
153	180	3	160	0.0500	0.0508	1	160	0.0509	0.0499
126	152	3	128	0.0499	0.0500	1	132	0.0508	0.0500
99	125	4	125	0.0499	0.0507	1	105	0.0502	0.0500
71	98	4	98	0.0499	0.0500	1	78	0.0482	0.0499

PC=0.0200 | ALFA=C.050 | HI= 2.256 | S=0.040135
 PI=0.0700 | BETA=C.050 | H2= 2.256 | ASN= 122

NATURAL TRUNCATION PCINT= 281 TRUE ALFA= C.0494
 TRUE BETA= C.0484

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPIANCE	BEST TRUNC	TRUE	TRUE
FROM	TO	PCINT	ALFA	BETA
256	280	260	0.0491	0.0499

SAMPLE NUMBER		F C L D		A L F A		H O L D		B E T A	
INTERVAL		ACPT	BEST			ACPT	BEST		
FROM	TO	RULE	TRUNC	TRUE	TRUE	RULE	TRUNC	TRUE	TRUE
		M	POINT	ALFA	BETA	M	POINT	ALFA	BETA
231	255	1	232	0.050	0.051	1	237	0.052	0.050
200	230	1	213	0.049	0.051	1	213	0.062	0.050
181	205	1	193	0.050	0.060	1	189	0.077	0.050
156	180	1	158	0.049	0.061	1	165	0.100	0.050
131	155	1	155	0.047	0.067	1	141	0.135	0.049
107	130	1	126	0.049	0.120	1	116	0.186	0.050
82	106	1	96	0.049	0.167	1	92	0.266	0.049
57	81	1	68	0.049	0.288	1	67	0.383	0.049

PC=0.0200 | ALFA=C.050 | HI= 2.031 | S=0.043587
 PI=0.0800 | BETA=C.050 | H2= 2.031 | ASN= 33

NATURAL TRUNCATION PCINT= 208 TRUE ALFA= C.0496
 TRUE BETA= 0.0485

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPIANCE	BEST TRUNC	TRUE	TRUE
FROM	TO	PCINT	ALFA	BETA
185	207	193	0.0496	0.0500

SAMPLE NUMBER		F C L D		A L F A		H O L D		B E T A	
INTERVAL		ACPT	BEST	TRUE		ACPT	BEST	TRUE	
FROM	TO	RULE	TRUNC	ALFA	BETA	RULE	TRUNC	ALFA	BETA
162	184	1	182	0.055	0.053	1	172	0.055	0.050
139	161	1	161	0.049	0.054	1	150	0.071	0.050
116	138	1	126	0.049	0.073	1	127	0.096	0.050
93	115	1	95	0.045	0.118	1	105	0.139	0.049
70	92	1	92	0.045	0.132	1	92	0.208	0.049
47	69	1	67	0.045	0.204	1	59	0.322	0.050

PO=0.0200	ALFA=C.050	H1=1.866	S=0.046953
PI=0.0900	BETA=C.050	H2=1.866	ASN=77

NATURAL TRUNCATION POINT= 168	TRUE ALFA= C.0453
	TRUE BETA= C.0484

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPTANCE	BEST TRUNC	TRUE	TRUE
FROM	TO	RULE	M	POINT
147	167	1	155	0.0419

SAMPLE NUMBER	F C L D	A L F A	F C L D	B E T A
INTERVAL	ACPT	BEST	ACPT	BEST
FROM	RULE	TRUNC	RULE	TRUNC
	M	POINT	M	POINT
125	145	1	136	0.053
104	124	2	115	0.071
83	103	2	95	0.106
62	82	2	74	0.166
40	61	2	53	0.275

PC=0.0200	ALFA=C.050	H1=1.738	S=0.050253
PI=0.1000	BETA=C.050	H2=1.738	ASN=63

NATURAL TRUNCATION POINT= 135	TRUE ALFA= C.0471
	TRUE BETA= C.0480

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPTANCE	BEST TRUNC	TRUE	TRUE
FROM	TO	RULE	M	POINT
115	134	1	123	0.0427

SAMPLE NUMBER	F C L D	A L F A	F C L D	B E T A
INTERVAL	ACPT	BEST	ACPT	BEST
FROM	RULE	TRUNC	RULE	TRUNC
	M	POINT	M	POINT
95	114	1	106	0.057
75	94	2	97	0.084
55	74	2	68	0.136
35	54	2	48	0.236

PC=0.0250 ALFA=C.050
PI=0.0400 BETA=C.050

HI=6.065 TS=0.031934
L2=6.065 L ASN=1182

NATURAL TRUNCATION POINT= 2852

TRUE ALFA= C.0499

TRUE BETA= C.0496

SAMPLE NUMBER	F C L D	A L F A	A M D	E E T A
INTERVAL	ACCEP	BEST	TRUE	TRUE
FROM	TO	PC	ALFA	BETA
2821	2851	2833	0.0472	0.0500
2790	2820	2802	0.0500	0.0495
2753	2789	2771	0.0478	0.0500
2727	2757	2740	0.0481	0.0500
2696	2726	2708	0.0500	0.0497
2664	2695	2665	0.0500	0.0493
2633	2663	2646	0.0491	0.0500
2602	2632	2615	0.0496	0.0500
2570	2601	2584	0.0500	0.0502

SAMPLE NUMBER	H C L D	A L F A	H C L D	E E T A
INTERVAL	ACPT	BEST	ACPT	TRUE
FROM	TO	PC	TO	BETA
2539	2569	2544	3	0.0500
2508	2538	2505	3	0.0500
2476	2507	2466	3	0.0500
2445	2475	2428	3	0.0500
2414	2444	2390	3	0.0500
2382	2413	2353	3	0.0500
2351	2381	2330	3	0.0500
2320	2350	2291	3	0.0500
2288	2319	2279	3	0.0500
2257	2287	2242	3	0.0500
2226	2256	2206	3	0.0500
2195	2225	2169	3	0.0500
2163	2194	2133	3	0.0500
2132	2162	2101	3	0.0500
2101	2131	2069	3	0.0500
2069	2100	2038	3	0.0500
2038	2068	2007	3	0.0500
2007	2037	1975	3	0.0500
1975	2006	1944	3	0.0500
1944	1974	1913	3	0.0500
1913	1943	1881	3	0.0500
1881	1912	1850	3	0.0500
1850	1880	1819	3	0.0500
1819	1849	1787	3	0.0500
1787	1818	1756	3	0.0500
1756	1786	1725	3	0.0500
1725	1755	1694	3	0.0500
1694	1724	1662	3	0.0500
1662	1693	1631	3	0.0500
1631	1661	1600	3	0.0500
1600	1630	1568	3	0.0500
1568	1599	1537	3	0.0500
1537	1567	1506	3	0.0500
1506	1536	1474	3	0.0500
1474	1505	1443	3	0.0500
1443	1473	1412	3	0.0500
1412	1442	1380	3	0.0500
1380	1411	1349	3	0.0500
1349	1379	1318	3	0.0500
1318	1348	1286	3	0.0500
1286	1317	1255	3	0.0500

1224	1254	8	1240	0.0500	0.116	3	1238	0.137	0.050
1192	1223	8	1207	0.0500	0.122	3	1207	0.143	0.050
1161	1191	8	1174	0.0500	0.127	3	1175	0.148	0.050
1130	1160	8	1142	0.0500	0.133	3	1144	0.155	0.050
1099	1129	8	1109	0.0500	0.140	3	1113	0.162	0.050
1067	1098	8	1076	0.0500	0.147	3	1082	0.170	0.050
1036	1066	8	1043	0.0500	0.155	3	1050	0.177	0.050
1005	1035	8	1011	0.0500	0.162	3	1019	0.185	0.050
973	1004	8	978	0.0500	0.171	3	988	0.194	0.050
942	972	8	946	0.0500	0.179	3	956	0.203	0.050
911	941	8	913	0.0500	0.190	3	925	0.213	0.050
879	910	8	881	0.0500	0.200	3	894	0.224	0.050
843	873	8	848	0.0500	0.212	3	862	0.234	0.050
817	847	8	847	0.0499	0.221	3	831	0.245	0.050
783	816	8	784	0.0500	0.233	3	800	0.255	0.050
754	784	8	752	0.0500	0.247	3	769	0.273	0.050
723	753	8	720	0.0500	0.261	3	737	0.286	0.050
691	722	8	688	0.0500	0.275	3	706	0.302	0.050
660	690	8	656	0.0500	0.291	3	675	0.318	0.049
629	659	8	624	0.0500	0.307	3	643	0.334	0.050
593	628	8	592	0.0500	0.325	3	612	0.352	0.050
565	597	8	560	0.0500	0.344	3	580	0.370	0.050
535	565	8	528	0.0500	0.364	3	549	0.391	0.050
504	534	8	497	0.0500	0.383	3	518	0.414	0.049
472	503	8	465	0.0500	0.406	3	486	0.435	0.050
441	471	8	433	0.0499	0.431	3	454	0.458	0.050
410	440	8	402	0.0500	0.454	3	423	0.486	0.049
373	409	8	371	0.0500	0.478	3	391	0.512	0.049
347	377	8	340	0.0500	0.505	3	359	0.541	0.049
316	346	8	309	0.0500	0.533	3	326	0.569	0.050
284	315	8	278	0.0499	0.564	3	294	0.603	0.049
253	283	8	248	0.0499	0.593	3	261	0.637	0.049
222	252	8	218	0.0499	0.625	3	227	0.672	0.049
192	221	8	198	0.0499	0.659	3	192	0.709	0.049

PC=0.0250 ALFA=C.050
PI=0.0500 BETA=C.050

HI= 4.094 S=0.036121
E2= 4.094 ASN= 481

NATURAL TRUNCATION PCINT= 1111

TRUE ALFA= 0.0453
TRUE BETA= 0.0453

SAMPLE NUMBER	F C L C	A L F A	A N D	B E T A
INTERVAL	ACCEPTANCE	BEST TRUNC	TRUE	TRUE
FROM	TO	PCINT	ALFA	BETA
1083	1110	1085	0.0454	0.0500
1055	1082	1062	0.0463	0.0500
1027	1054	1035	0.0473	0.0500
1000	1026	1008	0.0484	0.0500
972	999	981	0.0497	0.0500

SAMPLE NUMBER	F C L C	A L F A	F C L C	B E T A
INTERVAL	ACPT	BEST TRUNC	ACPT	BEST TRUNC
FROM	TO	PCINT	FROM	TO
944	971	945	954	954
917	943	943	927	927
889	916	908	899	899
861	888	872	872	872
834	860	836	845	845
806	833	803	817	817
778	805	782	790	790
751	777	768	762	762
723	750	735	735	735
695	722	702	707	707
668	694	669	680	680
640	667	667	652	652
612	639	637	624	624
584	611	605	597	597
557	583	574	569	569
529	556	543	542	542
501	528	512	514	514
474	500	481	486	486
446	473	451	459	459
418	445	421	431	431
391	417	391	404	404
363	390	360	376	376
335	362	361	348	348
308	334	322	321	321
280	307	303	293	293
252	279	274	265	265
225	251	245	238	238
197	224	216	210	210
169	196	188	182	182
142	168	160	153	153
114	141	132	124	124

PC=0.0250 ALFA=C.050
PI=0.0600 BETA=C.050

H1= 3.228 S=0.040034
H2= 3.228 ASN= 270

NATURAL TRUNCATION POINT= 605 TRUE ALFA= C.0493
TRUE BETA= 0.0490

SAMPLE NUMBER INTERVAL		H C L C ACCEPIANCE		A L F A BEST TRUNC		A N D TRUE ALFA		B E T A TRUE BETA	
FROM	TO	EL	M	PC	INT				
580	604	2			54	0.0440		0.0500	
555	579	1			561	0.0499		0.0492	
530	554	2			546	0.0476		0.0500	

SAMPLE NUMBER INTERVAL		H C L C ACPT RULE		A L F A BEST TRUNC PCINT		H C L C ACPT RULE		B E T A TRUE ALFA		B E T A TRUE BETA	
FROM	TO		M				M				
505	529	2		521	0.0500	0.0500	2	523	0.0500	0.0500	
480	504	2		485	0.0500	0.0502	2	499	0.0530	0.0500	
455	479	2		479	0.0480	0.0503	2	474	0.0570	0.0500	
430	454	3		451	0.0500	0.0504	2	450	0.0620	0.0500	
405	429	3		418	0.0500	0.0509	2	426	0.0680	0.0500	
380	404	3		386	0.0500	0.0605	2	401	0.0750	0.0500	
355	379	3		355	0.0500	0.0730	2	376	0.0830	0.0500	
331	354	4		354	0.0490	0.0740	2	352	0.0940	0.0500	
306	330	4		325	0.0490	0.0850	2	327	0.1070	0.0500	
281	305	4		296	0.0500	0.0990	2	303	0.1230	0.0500	
256	280	4		267	0.0490	0.1190	2	278	0.1420	0.0500	
231	255	4		239	0.0500	0.1440	2	253	0.1660	0.0500	
206	230	4		211	0.0490	0.1760	2	228	0.1940	0.0500	
181	205	4		184	0.0490	0.2140	2	204	0.2320	0.0490	
156	180	4		157	0.0490	0.2630	2	179	0.2760	0.0490	
131	155	4		131	0.0500	0.3190	2	154	0.3300	0.0490	
106	130	5		130	0.0490	0.3270	2	129	0.3970	0.0490	
81	105	5		105	0.0500	0.3500	2	104	0.4810	0.0480	

$F1 = 2.734$	$S = 0.743 \times 30$
$H2 = 2.134$	$ASN = 178$

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NATURAL TRUNCATION POINT= 405      TRUE ALFA= 0.0468
                                     TRUE BETA= 0.0469

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SAMPLE NUMBER		F C L D	A L F A	A N D	B E T A
INTERVAL	IC	ACCEPTANCE	BEST TRUNC	TRUE	TRUE
FRC	IC	RLI	ECINT	ALFA	BETA
382	404	2	399	0.0411	0.0500
359	381	1	378	0.0499	0.0488
336	358	2	357	0.0462	0.0495
313	335	2	335	0.0492	0.0500

SAMPLE NUMBER INTERVAL		ALPHA RULE	BEST TRUNC POINT	ALPHA		ALPHA RULE	BEST TRUNC POINT	BETA	
FROM	TO			ALPHA	BETA			ALPHA	BETA
291	312	4	300	0.0500	0.0500	1	292	0.0622	0.0500
268	290	4	268	0.0500	0.0589	1	270	0.0711	0.0500
245	267	4	267	0.0500	0.0600	1	247	0.0683	0.0500
222	244	4	238	0.0500	0.0689	1	225	0.0699	0.0500
200	221	4	209	0.0500	0.0666	1	202	0.0619	0.0500
177	199	4	181	0.0500	0.0611	1	180	0.0647	0.0500
154	176	4	155	0.0500	0.0643	1	157	0.0622	0.0500
131	153	4	153	0.0500	0.0611	1	135	0.0632	0.0499
108	130	4	129	0.0500	0.0600	1	112	0.0656	0.0499
86	107	4	103	0.0500	0.0611	1	89	0.0679	0.0500
63	85	4	79	0.0500	0.0642	1	56	0.0693	0.0500

H1 = 2.411	S = C.C47546
H2 = 2.411	ASL = 123

NATURAL TRUNCATION POINT= 283	TRUE ALPHA= 0.0477
	TRUE BETA= 0.0494

SAMPLE NUMBER		F C L C		A L F A		A N D		B E T A	
INTERVAL		ACCEPTANCE		BEST TRUNC		TRUE		TRUE	
FROM	TO	RLE	M	PCINT		ALFA		BEIA	
262	262	1		270		0.0454		0.0500	

SAMPLE NUMBER INTERVAL		F	C L C	A L F A		H	O L C	E E T A	
FROM	TO	ACFT RULE	BEST TRUNC POINT	TRUE ALFA	TRUE BETA	ACFT RULE	BEST TRUNC POINT	TRUE ALFA	TRUE BETA
241	261	1	248	0.050	0.050	1	249	0.050	0.050
219	240	2	240	0.047	0.051	1	227	0.057	0.050
198	213	2	212	0.050	0.054	1	206	0.067	0.050
177	197	2	182	0.050	0.063	1	185	0.080	0.050
156	176	2	176	0.046	0.071	1	163	0.099	0.050
135	155	2	154	0.050	0.081	1	142	0.127	0.050
114	134	2	127	0.049	0.114	1	121	0.167	0.050
93	113	2	102	0.049	0.164	1	100	0.223	0.050
72	92	2	78	0.049	0.229	1	79	0.305	0.050
51	71	2	55	0.050	0.348	1	58	0.424	0.049

PC=0.0250	ALFA=C.C50	H1= 2.181	S=0.051109
PI=0.0900	BETA=C.C50	H2= 2.181	ASN= 93

NATURAL TRUNCATION POINT= 219	TRUE ALFA= C.C420
	TRUE BETA= C.C487

SAMPLE NUMBER INTERVAL		F C L D ACCEPTANCE		A L F A BEST TRUNC		A N D TRUE		B E T A TRUE	
FROM	TO	RULE	M	PC INT		ALFA		BETA	
200	218	1		203		0.0425		C.C500	
180	199	1		185		0.0482		C.C500	

SAMPLE NUMBER INTERVAL		F C L D	A L F A		F C L D	B E T A			
FROM	TO	ACPT RULE	BEST TRUNC PC INT	TRUE ALFA	TRUE BETA	ACPT RULE	BEST TRUNC POINT	TRUE ALFA	TRUE BETA
161	179	2	179	C.C46	C.C52	1	167	C.C57	C.C50
141	160	2	155	C.C49	C.C56	1	148	C.C71	C.C50
121	140	2	127	C.C50	C.C71	1	129	C.C91	C.C50
102	120	3	120	C.C43	C.C87	1	110	C.C24	C.C50
82	101	3	101	C.C49	C.C85	1	91	C.C17	C.C49
63	81	3	77	C.C49	C.C65	1	71	C.C24	C.C50
43	62	3	54	C.C48	C.C69	1	52	C.C36	C.C49

PO=0.0250	ALFA=C.C50	H1= 2.008	S=0.054587
PI=0.1000	BETA=C.C50	H2= 2.008	ASN= 76

NATURAL TRUNCATION POINT= 165	TRUE ALFA= C.C487
	TRUE BETA= C.C481

SAMPLE NUMBER INTERVAL		F C L D ACCEPTANCE		A L F A BEST TRUNC		A N D TRUE		B E T A TRUE	
FROM	TO	RULE	M	PC INT		ALFA		BETA	
147	165	1		152		0.0440		C.C499	

SAMPLE NUMBER INTERVAL		F C L D		A L F A		H C L D		B E T A	
FROM	TO	ACPT RULE	BEST TRUNC PC INT	TRUE ALFA	TRUE BETA	ACPT RULE	BEST TRUNC PC INT	TRUE ALFA	TRUE BETA
129	146	1	130	0.050	0.052	1	136	0.054	0.050
111	128	2	128	0.048	0.054	1	118	0.068	0.050
92	110	2	101	0.049	0.071	1	101	0.094	0.050
74	91	2	77	0.050	0.110	1	83	0.136	0.050
56	73	2	73	0.044	0.124	1	65	0.205	0.049
37	55	3	54	0.049	0.156	1	47	0.319	0.049

PC=0.0050	ALFA=C.050	F1=3.224	S=C.007216
P1=C.0100	BETA=C.100	H2=4.140	ASA=1863

NATURAL TRUNCATION POINT= 4605	TRUE ALFA= C.0499
	TRUE BETA= C.0997

SAMPLE NUMBER		F C L C		A L F A		A N D		B E T A	
INTERVAL		ACPT	BEST	TRUNC		TRUE	TRUE		
FROM	TO	RULE	POINT	ALFA	BETA	ALFA	BETA		
4466	4604	1	4513	C.0499	C.1000				

SAMPLE NUMBER		F C L C		A L F A		F C L C		B E T A	
INTERVAL		ACPT	BEST	TRUNC		ACPT	BEST	TRUNC	
FROM	TO	RULE	POINT	TRUE	TRUE	RULE	POINT	TRUE	TRUE
				ALFA	BETA			ALFA	BETA
4328	4465	1	4346	C.0500	C.1000	1	4352	C.0500	C.1000
4189	4327	1	4327	C.0500	C.1000	1	4197	C.0501	C.1000
4051	4186	1	4134	C.0500	C.1001	1	4047	C.0508	C.0999
3912	4050	2	3939	C.0500	C.1002	2	4046	C.0503	C.1000
3774	3911	2	3911	C.0499	C.1002	2	3397	C.0505	C.1000
3635	3773	2	3753	C.0500	C.1003	2	3751	C.0507	C.1000
3496	3634	2	3573	C.0500	C.1005	2	3605	C.0509	C.1000
3358	3495	2	3399	C.0500	C.1008	2	3461	C.0622	C.1000
3219	3357	2	3228	C.0500	C.1111	2	3318	C.0665	C.1000
3081	3218	4	3218	C.0499	C.1112	2	3176	C.0669	C.1000
2942	3080	4	3061	C.0500	C.1116	2	3034	C.0733	C.1000
2803	2941	4	2896	C.0500	C.1211	2	2893	C.0780	C.1000
2665	2802	4	2735	C.0500	C.1228	2	2752	C.0833	C.1000
2526	2664	4	2575	C.0500	C.1336	2	2611	C.0900	C.1000
2388	2525	4	2418	C.0500	C.1466	2	2471	C.0998	C.1000
2249	2387	4	2262	C.0500	C.1588	2	2331	C.1066	C.1000
2110	2248	5	2248	C.0499	C.1633	2	2191	C.1116	C.1000
1972	2109	5	2109	C.0500	C.1722	2	2052	C.1228	C.1000
1833	1971	5	1957	C.0500	C.1899	2	1913	C.1422	C.1000
1695	1832	5	1807	C.0500	C.2008	2	1774	C.1557	C.1000
1556	1694	5	1658	C.0500	C.2331	2	1635	C.1766	C.1000
1418	1555	5	1510	C.0500	C.2593	2	1497	C.1997	C.1000
1279	1417	5	1364	C.0500	C.2888	2	1359	C.2222	C.1000
1140	1278	5	1219	C.0500	C.3223	2	1221	C.2511	C.1000
1002	1139	5	1076	C.0500	C.3663	2	1094	C.2855	C.1000
863	1001	5	934	C.0500	C.4008	2	946	C.3224	C.1000
725	862	5	754	C.0500	C.4559	2	809	C.3722	C.1000
586	724	5	657	C.0500	C.5114	2	671	C.4228	C.1000
447	585	5	523	C.0500	C.5755	2	532	C.4996	C.1000

PO=0.0050	ALFA=C.050	F1= 1.606	S=C.010835
PI=0.0200	BETA=C.100	F2= 2.062	ASN= 309

NATURAL TRUNCATION POINT= 702	TRUE ALFA= C.0482
	TRUE BETA= C.0993

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPTANCE	BEST TRUNC	TRUE	TRUE
FRCM	FILE	PCINT	ALFA	BETA
610	701	1	0.0463	C.1000

SAMPLE NUMBER	F C L D	A L F A	F C L D	B E T A
INTERVAL	ACPT	BEST	ACPT	BEST
FRCM	RULE	TRUNC	RULE	TRUNC
	M	POINT	M	POINT
		ALFA		BETA
513	609	1	579	C.057
425	517	2	482	C.075
333	424	2	387	C.105
241	332	2	294	C.159
149	240	2	203	C.255

PO=0.0050	ALFA=C.050	H1= 1.239	S=C.014003
PI=0.0300	BETA=C.100	F2= 1.591	ASN= 142

NATURAL TRUNCATION POINT= 375	TRUE ALFA= C.0375
	TRUE BETA= C.1002

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPTANCE	BEST TRUNC	TRUE	TRUE
FRCM	FILE	PCINT	ALFA	BETA
303	374	-UNDEF.-	-UNDEF.-	-UNDEF.-
232	302	1	0.0483	C.0999

SAMPLE NUMBER	F C L D	A L F A	F C L D	B E T A
INTERVAL	ACPT	BEST	ACPT	BEST
FRCM	RULE	TRUNC	RULE	TRUNC
	M	POINT	M	POINT
		ALFA		BETA
160	231	1	218	C.076
89	159	2	145	C.144

PO=0.0050	ALFA=C.050	F1= 1.064	S=0.016929
PI=0.0400	BETA=C.100	F2= 1.366	ASN= 37

NATURAL TRUNCATION POINT= 182	TRUE ALFA= C.0483
	TRUE BETA= C.0995

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPTANCE	BEST TRUNC	TRUE	TRUE
FRCM	FILE	PCINT	ALFA	BETA
122	181	1	C.0480	C.1098

SAMPLE NUMBER	F C L D	A L F A	F C L D	B E T A
INTERVAL	ACPT	BEST	ACPT	BEST
FRCM	RULE	TRUNC	RULE	TRUNC
	M	POINT	M	POINT
		ALFA		BETA
63	121	1	116	C.094

PO=0.0050	ALFA=C.050	H1= 0.958	S=0.015733
PI=0.0500	BETA=C.100	H2= 1.231	ASN= 61

NATURAL TRUNCATION POINT= 151	TRUE ALFA= 0.0333
	TRUE BETA= 0.0998

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPTANCE	BEST TRUNC	TRUE	TRUE
FROM	TO	RULE	POINT	ALFA
100	150	1	150	0.0333

SAMPLE NUMBER	F C L D	A L F A	F O L D	B E T A
INTERVAL	ACPT	BEST	ACPT	BEST
FROM	TO	RULE	TRUNC	POINT
42	99	1	96	0.0333

PO=0.0050	ALFA=C.050	F1= 0.846	S=0.022371
PI=0.0600	BETA=C.100	H2= 1.137	ASN= 49

NATURAL TRUNCATION POINT= 125	TRUE ALFA= 0.0256
	TRUE BETA= 0.1000

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPTANCE	BEST TRUNC	TRUE	TRUE
FROM	TO	RULE	POINT	ALFA
85	128	-UNDEF.-	-UNDEF.-	-UNDEF.-

PO=0.0050	ALFA=C.050	H1= 0.832	S=0.024953
PI=0.0700	BETA=C.100	H2= 1.068	ASN= 36

NATURAL TRUNCATION POINT= 74	TRUE ALFA= 0.0383
	TRUE BETA= 0.0967

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPTANCE	BEST TRUNC	TRUE	TRUE
FROM	TO	RULE	POINT	ALFA
34	73	1	71	0.0370

PO=0.0050	ALFA=C.050	H1= 0.790	S=0.027433
PI=0.0800	BETA=C.100	H2= 1.014	ASN= 29

NATURAL TRUNCATION POINT= 66	TRUE ALFA= 0.0306
	TRUE BETA= 0.0994

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPTANCE	BEST TRUNC	TRUE	TRUE
FROM	TO	RULE	POINT	ALFA
29	65	-UNDEF.-	-UNDEF.-	-UNDEF.-

PO=0.0050	ALFA=C.050	HI= 0.756	S=0.029963
PI=0.0900	BETA=C.100	H2= 0.970	ASN= 25
NATURAL TRUNCATION POINT= 55		TRUE ALFA= C.0250	
		TRUE BETA= C.0560	
SAMPLE NUMBER	F C L D	A L F A	A N D
INTERVAL	ACCEPTANCE	BEST TRUNC	TRUE
FROM	FILE	POINT	ALFA
26	58	56	0.0235
			C.0592

PO=0.0050	ALFA=C.050	HI= 0.727	S=0.032411
PI=0.1000	BETA=C.100	H2= 0.924	ASN= 21
NATURAL TRUNCATION POINT= 54		TRUE ALFA= C.0284	
		TRUE BETA= C.0565	
SAMPLE NUMBER	F C L D	A L F A	A N D
INTERVAL	ACCEPTANCE	BEST TRUNC	TRUE
FROM	FILE	POINT	ALFA
23	53	51	0.0272
			C.0555

PO=J.0100	ALFA=C.050	HI=3.201	S=0.014435
P1=J.0200	BETA=C.100	F2=4.110	ASN=924

NATURAL TRUNCATION POINT= 2300	TRUE ALFA= C.0480
	TRUE BETA= C.0555

SAMPLE NUMBER	F C L C	A L F A	A N D	B E T A
INTERVAL	ACCEPANCE	REST	TRUNC	TRUE
FCM	IC	ELIE	M	FCINT
2231	2259	1	2231	C.0480
2162	2230	1	2161	C.0500
2093	2161	2	2157	C.0492

SAMPLE NUMBER	F C L C	A L F A	F C L C	B E T A
INTERVAL	ACPT	BEST	TRUNC	TRUE
FCM	IC	ELIE	M	FCINT
2023	2092	2	2072	C.0500
1954	2022	2	1973	C.0500
1885	1953	2	1953	C.0495
1816	1884	2	1879	C.0500
1746	1815	2	1789	C.0500
1677	1745	3	1701	C.0500
1608	1676	3	1616	C.0500
1533	1607	4	1607	C.0495
1469	1537	4	1532	C.0500
1400	1468	4	1450	C.0500
1331	1399	4	1369	C.0500
1261	1330	4	1289	C.0500
1192	1260	4	1210	C.0500
1123	1191	4	1132	C.0500
1054	1122	4	1055	C.0500
984	1053	5	1053	C.0495
915	983	5	979	C.0500
846	914	5	904	C.0500
776	845	5	830	C.0500
707	775	5	756	C.0500
638	706	5	683	C.0500
569	637	5	610	C.0500
499	568	5	539	C.0500
430	498	5	468	C.0500
361	429	5	398	C.0500
292	360	5	329	C.0500
222	291	5	262	C.0500

PC=0.0100 ALFA=C.050 HI=2.012 S=0.018238
 PI=0.0300 BETA=C.100 H2=2.583 ASN=250

NATURAL TRUNCATION PCINT= 714 TRUE ALFA= C.0462
 TRUE BETA= C.0553

SAMPLE NUMBER INTERVAL		F C L D ACCEPTANCE	A L F A BEST TRUNC	A N D TRUE	B E T A TRUE
FROM	TO	RULE M	PCINT	ALFA	BETA
659	713	1	686	0.0446	C.1000
604	658	1	627	C.0484	C.1000

SAMPLE NUMBER INTERVAL		F C L D ACPT RULE	BEST TRUNC PCINT	A L F A TRUE ALFA	B E T A TRUE BETA
FROM	TO	M			
549	603	2	543	0.046	C.102
495	548	2	545	0.050	0.103
440	494	2	464	0.050	0.114
385	439	2	390	0.050	C.124
330	384	2	384	0.048	C.140
275	329	2	222	C.050	C.168
220	274	2	257	C.050	C.222
166	219	2	195	0.049	0.302
111	165	2	127	C.050	C.409

PC=0.0100 ALFA=C.050 FI=1.589 S=0.021715
 PI=0.0400 BETA=C.100 H2=2.040 ASN=152

NATURAL TRUNCATION PCINT= 350 TRUE ALFA= C.0478
 TRUE BETA= C.0578

SAMPLE NUMBER INTERVAL		F C L D ACCEPTANCE	A L F A BEST TRUNC	A N D TRUE	B E T A TRUE
FROM	TO	RULE M	PCINT	ALFA	BETA
304	349	1	326	0.0445	C.0555

SAMPLE NUMBER INTERVAL		F C L D ACPT RULE	BEST TRUNC PCINT	A L F A TRUE ALFA	B E T A TRUE BETA
FROM	TO	M			
258	303	1	265	C.050	C.105
212	257	2	257	C.047	C.109
166	211	2	195	C.050	C.138
120	165	2	135	0.049	0.215
74	119	2	82	C.049	0.358

PO=0.0100	ALFA=C.050	H1= 1.364	S=C.024585
PI=0.0500	BETA=C.100	H2= 1.751	ASN= 93

NATURAL TRUNCATION POINT= 215	TRUE ALFA= C.0484
	TRUE BETA= C.0985

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPTANCE	BEST TRUNC	TRUE	TRUE
FROM	TO	POINT	ALFA	BETA
175	214	206	0.0463	0.0998

SAMPLE NUMBER	F C L D	A L F A	F C L D	B E T A
INTERVAL	ACPT RULE	BEST TRUNC	ACPT RULE	BEST TRUNC
FROM	TO	POINT	FROM	TO
135	174	1	164	1
95	134	2	124	1
55	54	2	34	1

PO=0.0100	ALFA=C.050	H1= 1.221	S=C.028111
PI=0.0600	BETA=C.100	H2= 1.568	ASN= 70

NATURAL TRUNCATION POINT= 151	TRUE ALFA= C.0496
	TRUE BETA= C.0963

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPTANCE	BEST TRUNC	TRUE	TRUE
FROM	TO	POINT	ALFA	BETA
115	150	140	0.0460	0.0958

SAMPLE NUMBER	F C L D	A L F A	F C L D	B E T A
INTERVAL	ACPT RULE	BEST TRUNC	ACPT RULE	BEST TRUNC
FROM	TO	POINT	FROM	TO
80	114	1	106	1
44	79	2	72	1

PO=0.0100	ALFA=C.050	H1= 1.121	S=0.031129
PI=0.0700	BETA=C.100	H2= 1.439	ASN= 53

NATURAL TRUNCATION POINT= 133	TRUE ALFA= C.0395
	TRUE BETA= C.0953

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPTANCE	BEST TRUNC	TRUE	TRUE
FROM	TO	POINT	ALFA	BETA
101	132	118	0.0360	0.0996

SAMPLE NUMBER	F C L D	A L F A	F C L D	B E T A
INTERVAL	ACPT RULE	BEST TRUNC	ACPT RULE	BEST TRUNC
FROM	TO	POINT	FROM	TO
69	100	1	91	1
37	68	2	62	1

PO=0.0100	ALFA=C.050	H1= 1.746	S=C.034064
PI=C.0800	BETA=C.100	H2= 1.343	ASN= 42

NATURAL TRUNCATION POINT= 90	TRUE ALFA= C.0475
	TRUE BETA= C.0972

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPTANCE	BEST TRUNC	TRUE	TRUE
FROM TO	RLLE M	PCINT	ALFA	BETA
61 89	1	85	0.0449	C.0998

SAMPLE NUMBER	F C L D	A L F A	F C L D	B E T A
INTERVAL	ACPT	BEST	ACPT	BEST
FROM TO	RLLE	TRUNC	RLLE	TRUNC
	M	PCINT	M	PCINT
31 60	1	36	1	57
		C.050		C.099
		C.209		C.099

PC=0.0100	ALFA=C.050	H1= 0.937	S=0.036932
PI=C.0900	BETA=C.100	H2= 1.267	ASN= 35

NATURAL TRUNCATION POINT= 81	TRUE ALFA= C.0381
	TRUE BETA= C.0990

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPTANCE	BEST TRUNC	TRUE	TRUE
FROM TO	RLLE M	PCINT	ALFA	BETA
59 80	1	79	0.0372	C.0999

SAMPLE NUMBER	F C L D	A L F A	F C L D	B E T A
INTERVAL	ACPT	BEST	ACPT	BEST
FROM TO	RLLE	TRUNC	RLLE	TRUNC
	M	PCINT	M	PCINT
27 53	1	37	1	52
		0.050		0.075
		C.160		C.099

PO=0.0100	ALFA=C.050	H1= 0.939	S=C.039747
PI=C.1000	BETA=C.100	H2= 1.205	ASN= 29

NATURAL TRUNCATION POINT= 74	TRUE ALFA= C.0320
	TRUE BETA= C.0986

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPTANCE	BEST TRUNC	TRUE	TRUE
FROM TO	RLLE M	PCINT	ALFA	BETA
49 73	1	71	0.0309	C.0999

SAMPLE NUMBER	F C L D	A L F A	F C L D	B E T A
INTERVAL	ACPT	BEST	ACPT	BEST
FROM TO	RLLE	TRUNC	RLLE	TRUNC
	M	PCINT	M	PCINT
24 48	1	38	1	47
		C.045		0.063
		C.128		C.099

PC=0.0150 | ALFA=C.050 |
PI=0.0300 | BETA=C.100 |

H1= 3.178 | S=C.021659 |
h2= 4.080 | ASN= 611 |

NATURAL TRUNCATION POINT= 1532

TRUE ALFA= C.0453
TRUE BETA= C.0993

SAMPLE NUMBER INTERVAL		F C L D ACCEPTANCE		A L F A BEST TRUNC		A N D TRUE ALFA		B E T A TRUE BETA	
FROM	TO	FILE	M	FCINT					
1486	1531	2		1525		0.0464		C.1000	
1440	1485	1		1459		0.0500		C.0994	
1394	1439	2		1429		C.0495		C.1000	
1348	1393	2		1381		0.0497		C.1000	

SAMPLE NUMBER INTERVAL		F C L D ACPT		A L F A BEST TRUNC		F C L D ACPT		B E T A TRUE ALFA		B E T A TRUE BETA	
FROM	TO	RULE	M	FCINT		RULE	M				
1301	1347	2		1318	C.0500	2	1334	C.0511	C.1000		
1255	1300	2		1255	C.0500	2	1287	0.0553	C.1000		
1209	1254	2		1254	C.0500	2	1240	0.0555	C.1000		
1163	1208	2		1194	C.0500	2	1193	C.0557	C.1000		
1117	1162	2		1136	C.0500	2	1146	0.0600	C.1000		
1071	1116	2		1078	C.0500	2	1099	C.0633	C.1000		
1024	1070	4		1070	C.0499	2	1053	C.0667	C.1000		
978	1023	4		1022	C.0500	2	1006	0.0711	C.1000		
932	977	4		967	C.0500	2	960	0.0766	C.1000		
886	931	4		913	C.0500	2	913	0.0811	C.1000		
840	885	4		860	C.0500	2	867	0.0888	C.1000		
794	839	4		807	C.0500	2	821	C.0955	C.1000		
747	793	4		755	C.0500	2	774	C.1044	C.1000		
701	746	4		704	C.0500	2	728	C.1114	C.1000		
655	700	5		700	0.0499	2	682	C.1255	C.1000		
609	654	5		653	C.0500	2	636	C.1399	C.1000		
563	608	5		603	C.0500	2	590	C.1555	C.1000		
517	562	5		553	C.0500	2	544	0.1733	C.0999		
470	516	5		504	C.0500	2	498	C.1944	C.0999		
424	469	5		455	C.0499	2	452	C.2199	C.0999		
378	423	5		407	C.0500	2	406	0.2488	C.0999		
332	377	5		359	C.0499	2	360	C.2811	C.1000		
286	331	5		312	C.0500	2	314	C.3211	C.1000		
240	285	5		265	C.0499	2	269	0.3700	C.0999		
193	239	5		220	C.0500	2	223	C.4266	C.0999		
147	192	5		175	C.0500	2	177	C.4955	C.0999		

PO=0.0150 | ALFA=C.050 | HI= 2.237 | S=C.025541
 PI=0.0400 | BETA=C.100 | H2= 2.872 | ASD= 259

NATURAL TRUNCATION POINT= 635 TRUE ALFA= C.0472
 TRUE BETA= C.0551

SAMPLE NUMBER INTERVAL		F C L D ACCEPTANCE		A L F A BEST TRUNC		A N D TRUE		B E T A TRUE	
FROM	TO	RULE	M	PCINT	PCINT	ALFA	ALFA	BETA	BETA
597	635	1		635		0.0453		C.1000	
558	596	1		567		0.0481		C.1000	

SAMPLE NUMBER INTERVAL		F C L D ACPT		A L F A BEST TRUNC		F C L D ACPT		B E T A BEST TRUNC	
FROM	TO	RULE	M	PCINT	PCINT	RULE	M	PCINT	PCINT
519	557	2		557		1		527	
480	518	2		515		1		437	
440	479	2		457		1		448	
401	439	2		404		1		408	
362	400	2		400		1		369	
323	361	2		354		1		329	
284	322	2		306		1		290	
245	283	2		260		1		251	
206	244	2		216		1		212	
166	205	2		173		1		174	
127	165	2		131		1		135	
88	126	3		91		1		97	

PO=0.0150 | ALFA=C.050 | HI= 1.815 | S=0.029174
 PI=0.0500 | BETA=C.100 | H2= 2.331 | ASD= 149

NATURAL TRUNCATION POINT= 371 TRUE ALFA= C.0448
 TRUE BETA= C.0584

SAMPLE NUMBER INTERVAL		F C L D ACCEPTANCE		A L F A BEST TRUNC		A N D TRUE		B E T A TRUE	
FROM	TO	RULE	M	PCINT	PCINT	ALFA	ALFA	BETA	BETA
337	370	1		346		0.0421		C.1000	
303	336	1		314		0.0470		C.0599	

SAMPLE NUMBER INTERVAL		F C L D ACPT		A L F A BEST TRUNC		F C L D ACPT		B E T A BEST TRUNC	
FROM	TO	RULE	M	PCINT	PCINT	RULE	M	PCINT	PCINT
263	302	2		302		1		280	
234	267	2		267		1		247	
200	233	2		216		1		213	
166	199	2		171		1		179	
131	165	2		165		1		146	
97	130	2		120		1		112	
63	96	2		91		1		79	

PC=0.0150	ALFA=C.050	H1=1.571	S=0.032631
P1=0.0600	BETA=C.100	H2=2.017	ASN=100

NATURAL TRUNCATION POINT= 233	TRUE ALFA= C.0472
	TRUE BETA= C.0973

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPTANCE	BEST TRUNC	TRUE	TRUE
FROM TO	RULE M	PCINT	ALFA	BETA
202 232	1	214	0.0433	C.1000

SAMPLE NUMBER	F C L D	A L F A	H O L D	B E T A
INTERVAL	ACPT BEST	TRUE TRUE	ACPT BEST	TRUE TRUE
FROM TO	RULE TRUNC	ALFA BETA	RULE TRUNC	ALFA BETA
	M PCINT		M PCINT	
171 201	1 178	0.0500 0.103	1 186	0.053 0.103
141 170	2 170	C.046 C.109	1 156	C.070 C.100
110 140	2 131	0.050 C.134	1 127	C.101 C.099
79 109	2 50	0.049 0.212	1 97	0.155 C.098
49 78	2 55	C.050 C.332	1 67	C.252 C.098

PC=0.0150	ALFA=C.050	F1=1.409	S=0.035953
P1=0.0700	BETA=C.100	H2=1.809	ASN=73

NATURAL TRUNCATION POINT= 175	TRUE ALFA= C.0425
	TRUE BETA= C.0973

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPTANCE	BEST TRUNC	TRUE	TRUE
FROM TO	RULE M	PCINT	ALFA	BETA
151 178	1	165	0.0396	C.1000

SAMPLE NUMBER	F C L D	A L F A	H O L D	B E T A
INTERVAL	ACPT BEST	TRUE TRUE	ACPT BEST	TRUE TRUE
FROM TO	RULE TRUNC	ALFA BETA	RULE TRUNC	ALFA BETA
	M PCINT		M PCINT	
123 150	1 138	0.0500 C.100	1 140	C.051 C.100
95 122	2 122	0.041 C.115	1 113	0.072 C.099
67 94	2 91	0.049 C.141	1 86	C.115 C.099
40 66	2 54	0.048 0.264	1 58	0.200 C.100

PC=0.0150	ALFA=C.050	H1=1.292	S=0.039154
P1=0.0800	BETA=C.100	H2=1.659	ASN=56

NATURAL TRUNCATION POINT= 136	TRUE ALFA= C.0231
	TRUE BETA= C.0991

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPTANCE	BEST TRUNC	TRUE	TRUE
FROM TO	RULE M	PCINT	ALFA	BETA
110 135	1	121	0.0417	C.1599

SAMPLE NUMBER	F C L D	A L F A	H O L D	B E T A
INTERVAL	ACPT BEST	TRUE TRUE	ACPT BEST	TRUE TRUE
FROM TO	RULE TRUNC	ALFA BETA	RULE TRUNC	ALFA BETA
	M PCINT		M PCINT	
85 109	1 94	C.050 C.109	1 104	C.057 C.100
59 84	2 94	0.041 C.128	1 79	C.091 C.099
33 58	2 54	C.048 C.156	1 53	0.167 C.099

PO=J.C150	ALFA=C.C50	FI= 1.203	S=0.042330
PI=J.0900	BETA=C.100	F2= 1.545	ASN= 45

NATURAL TRUNCATION PCINT= 100	TRUE ALFA= C.0486
	TRUE BETA= 0.0552

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPTANCE	BEST TRUNC	TRUE	TRUE
FROM	TO	RULE M	PCINT	ALFA
76	99	1	90	0.0437
				C.1000

SAMPLE NUMBER	H O L D	A L F A	H O L D	B E T A
INTERVAL	ACPT RULE	BEST TRUNC	ACPT RULE	BEST TRUNC
FROM	TO	PCINT	FROM	TO
53	75	1	53	75
		0.050		0.142
29	52	2	29	52
		C.C45		C.161

PO=J.C150	ALFA=C.C50	FI= 1.133	S=0.045410
PI=J.1000	BETA=C.100	H2= 1.454	ASN= 38

NATURAL TRUNCATION PCINT= 52	TRUE ALFA= C.0413
	TRUE BETA= C.1003

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPTANCE	BEST TRUNC	TRUE	TRUE
FROM	TO	RULE M	PCINT	ALFA
69	91	-UNDEF.-	-UNDEF.-	-UNDEF.-
				-UNDEF.-

SAMPLE NUMBER	H O L D	A L F A	H O L D	B E T A
INTERVAL	ACPT RULE	BEST TRUNC	ACPT RULE	BEST TRUNC
FROM	TO	PCINT	FROM	TO
47	68	1	47	68
		0.050		0.118
25	46	2	25	46
		C.C37		C.167

PO=0.0200 | ALFA=C.050 | HI= 5.415 | S=0.022672
 PI=0.0200 | BETA=C.100 | L2= 6.953 | ASN=1564

NATURAL TRUNCATION FCINT= 419² | TRUE ALFA= C.0498
 TRUE BETA= C.0995

SAMPLE NUMBER INTERVAL		F C L D	ACCEP TANCE	BEST TRUNC	ALFA	TRUE ALFA	BETA	TRUE BETA
FROM	TO		RULE	POINT				
4152	4151			4170		0.0478		C.1000
4111	4151			4129		0.0480		C.1000
4071	4110			4067		0.0482		C.1000
4030	4070			4046		0.0484		C.1000
3990	4029			4005		0.0486		C.1000
3949	3989			3955		0.0500		C.0997
3903	3948			3923		0.0491		C.1000
3868	3907			3882		0.0494		C.1000
3827	3867			3841		0.0497		C.1000

SAMPLE NUMBER INTERVAL		F C L C	ACPT RULE	BEST TRUNC	ALFA	TRUE ALFA	TRUE BETA	F C L C	ACPT RULE	BEST TRUNC	ALFA	TRUE ALFA	TRUE BETA
FROM	TO			POINT						POINT			
3787	3826			3759	C.0500	C.1000				3800	C.0500	C.1000	
3746	3786			3718	C.0500	C.1000				3759	C.0500	C.1000	
3706	3745			3677	C.0500	C.1000				3718	C.0510	C.1000	
3665	3705			3636	C.0500	C.1000				3677	C.0510	C.1000	
3625	3664			3595	C.0500	C.1000				3636	C.0510	C.1000	
3584	3624			3555	C.0500	C.1000				3595	C.0520	C.1000	
3544	3583			3514	C.0500	C.1000				3555	C.0520	C.1000	
3503	3543			3473	C.0500	C.1000				3514	C.0530	C.1000	
3463	3502			3432	C.0500	C.1000				3473	C.0530	C.1000	
3422	3462			3391	C.0500	C.1000				3432	C.0540	C.1000	
3382	3421			3351	C.0500	C.1000				3391	C.0540	C.1000	
3341	3381			3310	C.0500	C.1000				3351	C.0550	C.1000	
3300	3340			3269	C.0500	C.1000				3310	C.0550	C.1000	
3260	3299			3228	C.0500	C.1000				3269	C.0560	C.1000	
3219	3259			3188	C.0500	C.1000				3228	C.0560	C.1000	
3179	3218			3147	C.0500	C.1000				3188	C.0570	C.1000	
3138	3178			3106	C.0500	C.1000				3147	C.0580	C.1000	
3098	3137			3065	C.0500	C.1000				3106	C.0580	C.1000	
3057	3097			3025	C.0500	C.1000				3065	C.0590	C.1000	
3017	3056			2984	C.0500	C.1000				3025	C.0600	C.1000	
2976	3016			2943	C.0500	C.1000				2984	C.0610	C.1000	
2936	2975			2903	C.0500	C.1000				2943	C.0620	C.1000	
2895	2935			2862	C.0500	C.1000				2903	C.0630	C.1000	
2855	2894			2821	C.0500	C.1000				2862	C.0640	C.1000	
2814	2854			2781	C.0500	C.1000				2821	C.0650	C.1000	
2774	2813			2740	C.0500	C.1000				2781	C.0660	C.1000	
2733	2773			2700	C.0500	C.1000				2740	C.0670	C.1000	
2692	2732			2659	C.0500	C.1000				2700	C.0680	C.1000	
2652	2691			2618	C.0500	C.1000				2659	C.0690	C.1000	
2611	2651			2578	C.0500	C.1000				2618	C.0710	C.1000	
2571	2610			2537	C.0500	C.1000				2578	C.0720	C.1000	
2530	2570			2496	C.0500	C.1000				2537	C.0740	C.1000	
2490	2530			2456	C.0500	C.1000				2496	C.0750	C.1000	
2449	2489			2415	C.0500	C.1000				2456	C.0770	C.1000	
2409	2448			2375	C.0500	C.1000				2415	C.0780	C.1000	
2368	2408			2334	C.0500	C.1000				2375	C.0800	C.1000	
2323	2367			2293	C.0500	C.1000				2334	C.0820	C.1000	
2287	2327			2253	C.0500	C.1000				2293	C.0840	C.1000	
2247	2286			2212	C.0500	C.1000				2253	C.0860	C.1000	
2206	2246			2172	C.0500	C.1000				2212	C.0890	C.1000	
2166	2205			2131	C.0500	C.1000				2172	C.0910	C.1000	
2125	2165				C.0500	C.1430				2131	C.0930	C.1000	

2084	2124	8	2119	0.050	C.146	3	2091	C.096	C.100
2044	2083	8	2076	0.050	C.149	3	2050	C.099	C.100
2003	2043	8	2033	0.050	C.153	3	2010	0.102	C.100
1963	2002	8	1991	0.050	C.157	3	1969	C.105	C.100
1922	1962	8	1948	0.050	C.161	3	1928	0.108	C.100
1882	1921	8	1906	0.050	C.165	3	1888	0.111	C.100
1841	1881	8	1863	0.050	C.170	3	1847	C.115	C.100
1801	1840	8	1821	0.050	C.175	3	1807	0.118	C.100
1760	1800	8	1779	0.050	C.179	3	1766	0.122	C.100
1720	1759	8	1736	0.050	C.185	3	1726	0.127	C.100
1679	1719	8	1694	0.050	C.191	3	1685	0.131	C.100
1639	1678	8	1652	0.050	C.197	3	1645	C.136	C.100
1593	1638	8	1610	0.050	C.203	3	1604	0.140	C.100
1553	1597	8	1569	0.050	C.209	3	1564	C.145	C.100
1517	1557	8	1527	0.050	C.216	3	1523	C.151	C.100
1477	1516	8	1485	0.050	C.224	3	1483	0.156	C.100
1436	1476	8	1443	0.050	C.232	3	1442	C.162	C.100
1395	1435	8	1402	0.050	C.239	3	1402	C.169	C.100
1355	1394	8	1360	0.050	C.248	3	1361	0.175	C.100
1314	1354	8	1319	0.050	C.257	3	1321	C.182	C.100
1274	1313	8	1277	0.050	C.267	3	1281	C.190	C.100
1233	1273	8	1236	0.050	C.276	3	1240	C.197	C.100
1193	1232	8	1194	0.050	C.287	3	1200	C.206	C.100
1152	1192	8	1153	0.050	C.298	3	1159	0.214	C.100
1112	1151	8	1112	0.050	C.309	3	1119	0.223	C.100
1071	1111	8	1071	0.050	C.321	3	1079	0.234	C.100
1031	1070	8	1070	0.050	C.322	3	1038	0.243	C.100
990	1030	8	1030	0.050	C.333	3	998	C.254	C.100
950	989	8	989	0.050	C.346	3	958	0.266	C.099
909	949	8	948	0.050	C.360	3	917	0.277	C.100
869	908	8	907	0.050	C.375	3	877	C.291	C.100
828	868	8	866	0.050	C.390	3	837	0.305	C.099
787	827	8	825	0.050	C.406	3	796	0.318	C.100
747	786	8	784	0.050	C.424	3	756	0.334	C.100
706	746	8	744	0.050	C.439	3	716	C.350	C.099
666	705	8	703	0.049	C.459	3	675	C.366	C.100
625	665	8	663	0.050	C.476	3	635	0.385	C.099
585	624	8	623	0.050	C.495	3	594	C.403	C.100
544	584	8	583	0.050	C.515	3	554	C.425	C.099
504	543	8	543	0.050	C.536	3	513	0.446	C.100
463	503	8	464	0.050	C.579	3	473	C.471	C.099
423	462	8	425	0.050	C.601	3	432	0.495	C.099
382	422	8	386	0.050	C.624	3	391	C.522	C.099
342	381	8	348	0.050	C.647	3	349	C.548	C.100
301	341	8	310	0.050	C.671	3	308	0.581	C.099
261	300	8	273	0.050	C.694	3	265	0.613	C.099
220	260	8	236	0.050	C.720	3	221	C.647	C.100

PC=0.0200 ALFA=C.050
PI=0.0400 BETA=C.100

H1= 3.154 S=0.028883
F2= 4.045 ASN= 455

NATURAL TRUNCATION POINT= 1148 TRUE ALFA= C.0490
TRUE BETA= C.0990

SAMPLE NUMBER	F C L D	A L F A	A M D	B E T A
INTERVAL	ACCEPIANCE	BEST TRUNC	TRUE	TRUE
FROM TO	RLLE M	PC INT	ALFA	BETA
1114 1147	2	1133	C.0456	C.1000
1079 1113	2	1058	C.0465	C.1000
1044 1078	2	1064	C.0476	C.1000
1010 1043	2	1025	C.0489	C.1000

SAMPLE NUMBER	F C L D	A L F A	F C L D	B E T A
INTERVAL	ACPT	BEST TRUNC	ACPT	BEST TRUNC
FROM TO	RLLE M	PC INT	RLLE M	PC INT
975 1009	2	991	2	995
940 974	2	943	2	960
906 939	2	939	2	925
871 905	2	857	2	891
837 870	2	853	2	856
802 836	2	810	2	822
767 801	2	768	2	797
733 766	2	766	2	752
698 732	2	726	2	718
664 697	2	686	2	683
629 663	2	646	2	649
594 628	2	606	2	614
560 593	2	567	2	579
525 559	2	529	2	545
490 524	2	490	2	510
456 489	2	489	2	476
421 455	2	453	2	441
387 420	2	415	2	407
352 386	2	379	2	372
317 351	2	342	2	338
283 316	2	306	2	304
248 282	2	270	2	270
214 247	2	234	2	235
179 213	2	199	2	201
144 178	2	165	2	167
110 143	2	131	2	132

$P0=0.0200$ | $ALFA=C.050$ | $H1=2.376$ | $S=0.032317$
 $P1=0.0500$ | $BETA=C.100$ | $H2=3.051$ | $ASN=223$

NATURAL TRUNCATION PCINT= 560 TRUE ALFA= C.0481
 TRUE BETA= C.0558

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPANCE	BEST TRUNC	TRUE	TRUE
FROM	TO	PCINT	ALFA	BETA
530	559	532	0.0455	0.0599
500	529	501	0.0480	0.0500

SAMPLE NUMBER	F C L D	A L F A	F C L D	B E T A
INTERVAL	ACPT RULE	BEST TRUNC	ACPT RULE	BEST TRUNC
FROM	TO	PCINT	FROM	TO
469	499	459	471	499
439	468	464	440	468
403	438	419	410	438
378	407	378	379	407
347	377	377	349	377
317	346	339	319	346
286	316	302	288	316
256	285	265	258	285
225	255	230	227	255
195	224	196	197	224
164	194	194	167	194
134	163	163	137	163
103	133	130	107	133
73	102	99	77	102

$P0=0.0200$ | $ALFA=C.050$ | $H1=1.974$ | $S=0.036546$
 $P1=0.0600$ | $BETA=C.100$ | $H2=2.535$ | $ASN=142$

NATURAL TRUNCATION PCINT= 358 TRUE ALFA= C.0455
 TRUE BETA= C.0577

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPANCE	BEST TRUNC	TRUE	TRUE
FROM	TO	PCINT	ALFA	BETA
323	355	352	0.0394	0.0599
301	327	326	0.0499	0.0573

SAMPLE NUMBER	F C L D	A L F A	F C L D	B E T A
INTERVAL	ACPT RULE	BEST TRUNC	ACPT RULE	BEST TRUNC
FROM	TO	PCINT	FROM	TO
273	300	273	277	300
246	272	272	251	272
219	245	232	225	245
191	218	196	198	218
164	190	190	171	190
137	163	161	145	163
109	136	129	118	136
82	108	98	91	108
52	81	68	55	81

PO=0.0200 | ALFA=C.050 | HI=1.725 | S=0.040125
 PI=0.0700 | BETA=C.100 | H2=2.215 | ASD=99

NATURAL TRUNCATION POINT= 243 | TRUE ALFA= 0.0451
 TRUE BETA= 0.0999

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPTANCE	BEST TRUNC	TRUE	TRUE
FROM	TO	RULE	PCINT	ALFA
213	242	1	242	0.0449

SAMPLE NUMBER	F C L D	A L F A	F C L D	B E T A
INTERVAL	ACPT	BEST	ACPT	BEST
FROM	RULE	TRUNC	RULE	TRUNC
FROM	TO	PCINT	FROM	TO
193	217	1	211	0.050
168	192	1	184	0.060
143	167	2	157	0.074
118	142	2	131	0.098
93	117	2	106	0.130
68	92	2	91	0.198
43	67	3	56	0.297

PO=0.0200 | ALFA=C.050 | FI=1.553 | S=0.043587
 PI=0.0800 | BETA=C.100 | F2=1.994 | ASD=74

NATURAL TRUNCATION POINT= 174 | TRUE ALFA= 0.0467
 TRUE BETA= 0.0977

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPTANCE	BEST TRUNC	TRUE	TRUE
FROM	TO	RULE	PCINT	ALFA
151	173	1	161	0.0432

SAMPLE NUMBER	F C L D	A L F A	F C L D	B E T A
INTERVAL	ACPT	BEST	ACPT	BEST
FROM	RULE	TRUNC	RULE	TRUNC
FROM	TO	PCINT	FROM	TO
128	150	1	140	0.053
105	127	2	117	0.070
82	104	2	95	0.100
59	81	2	72	0.152
36	58	2	50	0.249

PO=0.0200	ALFA=C.050	H1= 1.427	S=0.746953
PI=0.0900	BETA=C.100	H2= 1.831	ASN= 58

NATURAL TRUNCATION POINT= 137	TRUE ALFA= C.0442
	TRUE BETA= 0.0971

SAMPLE NUMBER		F C L D		A L F A		A N D		B E T A	
INTERVAL		ACCEPTANCE		BEST TRUNC		TRUE		TRUE	
ERCM	IC	RULE	M	PCINT	ALFA	BETA			
116	136	1		126	C.0407			0.0998	

SAMPLE NUMBER		F C L D		A L F A		F C L D		B E T A	
INTERVAL		ACPT	BEST	TRUE		ACPT	BEST	TRUE	
ERCM	IC	RULE	TRUNC	ALFA	BETA	RULE	TRUNC	ALFA	BETA
		M	PCINT			M	POINT		
95	115	1	102	0.049	0.103	1	106	0.052	0.100
73	94	2	94	0.042	0.115	1	86	0.075	0.100
52	72	2	69	0.050	0.147	1	66	0.122	0.093
31	51	2	41	0.049	0.276	1	45	0.211	0.093

PO=0.0200	ALFA=C.050	H1= 1.329	S=0.050253
PI=0.1000	BETA=C.100	H2= 1.706	ASN= 47

NATURAL TRUNCATION POINT= 107	TRUE ALFA= 0.0474
	TRUE BETA= 0.0991

SAMPLE NUMBER		F C L D		A L F A		A N D		B E T A	
INTERVAL		ACCEPTANCE		BEST TRUNC		TRUE		TRUE	
ERCM	IC	RULE	M	PCINT	ALFA	BETA			
87	106	1		96	0.0422			0.0995	

SAMPLE NUMBER		F C L D		A L F A		F C L D		B E T A	
INTERVAL		ACPT	BEST	TRUE		ACPT	BEST	TRUE	
ERCM	IC	RULE	TRUNC	ALFA	BETA	RULE	TRUNC	ALFA	BETA
		M	PCINT			M	POINT		
67	86	1	69	0.049	0.118	1	78	0.059	0.100
47	66	2	66	0.045	0.128	1	60	0.098	0.099
27	46	2	41	0.049	0.216	1	41	0.180	0.098

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NAVAL POSTGRADUATE SCHOOL MONTEREY CA
TRUNCATION AND ACCEPTANCE RULES FOR SEQUENTIAL TESTS FOR A BERN--ETC(U)
SEP 80 J PETERSEN

F/G 12/1

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PC=0.0250 ALFA=C.050
PI=0.0400 BETA=C.100

F1= 4.637 S=0.031934
h2= 5.953 ASD= 852

NATURAL TRUNCATION POINT= 2338

TRUE ALFA= 0.0499
TRUE BETA= C.0552

SAMPLE NUMBER	F C L D	A L F A	A N D	E E T A
INTERVAL	ACCEPANCE	BEST TRUNC	TRUE	TRUE
FROM TO	RULE M	PC INT	ALFA	BETA
2306 2337	3	2325	0.0470	0.1000
2275 2305	1	2285	0.0500	0.0993
2244 2274	3	2262	0.0477	0.1000
2212 2243	3	2231	0.0480	0.1000
2181 2211	2	2193	0.0500	0.0995
2150 2180	2	2151	0.0500	0.0996
2119 2149	3	2137	0.0493	0.1000
2087 2118	3	2106	0.0498	0.1000

SAMPLE NUMBER	F C L D	A L F A	F C L D	B E T A
INTERVAL	ACPT	BEST TRUNC	ACPT	BEST TRUNC
FROM TO	RULE M	PC INT	RULE M	PC INT
2056 2086	3	2070	3	2075
2025 2055	3	2031	3	2044
1993 2024	4	2024	3	2012
1962 1992	4	1992	3	1981
1931 1961	4	1954	3	1950
1899 1930	4	1916	3	1918
1868 1898	4	1879	3	1887
1837 1867	4	1842	3	1856
1805 1836	4	1804	3	1825
1774 1804	5	1769	3	1793
1743 1773	5	1733	3	1762
1711 1742	5	1697	3	1731
1680 1710	5	1661	3	1699
1649 1679	5	1626	3	1668
1617 1648	5	1590	3	1637
1586 1616	5	1555	3	1605
1555 1585	5	1520	3	1574
1524 1554	6	1485	3	1543
1492 1523	6	1451	3	1512
1461 1491	6	1416	3	1480
1430 1460	6	1382	3	1449
1398 1429	6	1348	3	1418
1367 1397	6	1314	3	1386
1336 1366	6	1280	3	1355
1304 1335	6	1246	3	1324
1273 1303	6	1213	3	1293
1242 1272	6	1179	3	1261
1210 1241	6	1146	3	1230
1179 1209	7	1112	3	1199
1148 1178	7	1079	3	1167
1116 1147	7	1046	3	1136
1085 1115	7	1013	3	1105
1054 1084	7	980	3	1074
1023 1053	7	947	3	1042
991 1022	7	914	3	1011
960 990	7	882	3	980
929 959	7	850	3	948
897 928	7	817	3	917
866 896	7	784	3	886
835 865	7	752	3	855
803 834	7		3	823
772 802	7		3	792
741 771	7		3	761

709	740	7	720	0.050	0.267	3	730	0.191	0.100
678	708	7	688	0.050	0.281	3	699	0.202	0.099
647	677	7	655	0.050	0.298	3	667	0.212	0.100
615	646	7	623	0.049	0.313	3	636	0.225	0.100
584	614	7	591	0.049	0.331	3	605	0.238	0.100
553	583	7	560	0.050	0.346	3	574	0.253	0.100
521	552	7	528	0.050	0.366	3	543	0.269	0.099
490	520	7	496	0.050	0.387	3	512	0.286	0.099
459	489	7	465	0.050	0.407	3	481	0.304	0.099
428	458	7	433	0.049	0.431	3	450	0.324	0.099
396	427	7	402	0.050	0.454	3	418	0.343	0.100
365	395	7	371	0.050	0.478	3	387	0.366	0.100
334	364	7	340	0.050	0.504	3	356	0.392	0.099
302	333	7	309	0.050	0.533	3	325	0.420	0.099
271	301	7	278	0.049	0.564	3	294	0.450	0.098
240	270	7	248	0.049	0.599	3	262	0.480	0.099
208	239	7	218	0.049	0.625	3	231	0.518	0.093
177	207	7	189	0.049	0.655	3	198	0.553	0.100
146	176	7	160	0.049	0.689	3	166	0.598	0.093

PO=0.0250	ALFA=0.050	H1= 3.131	S=C.036121
PI=0.0500	BETA=C.100	F2= 4.019	ASN= 361

NATURAL TRUNCATION POINT= 919	TRUE ALFA= C.0487
	TRUE BETA= C.0987

SAMPLE NUMBER INTERVAL		F C L D	A L F A	A N D	B E T A
FROM	TO	ACCEP RULE	BEST TRUNC POINT	TRUE ALFA	TRUE BETA
890	917	2	899	0.0448	C.1000
862	889	2	873	0.0458	C.0999
835	861	1	836	0.0499	C.0990
807	834	2	819	0.0481	C.0995
779	806	2	752	0.0496	C.0999

SAMPLE NUMBER INTERVAL		F C L D	A L F A	H O L D	B E T A		
FROM	TO	ACPT RULE	BEST TRUNC POINT	ACPT RULE	BEST TRUNC POINT	TRUE ALFA	TRUE BETA
752	778	2	756	2	764	0.051	C.100
724	751	2	751	2	737	C.053	C.100
696	723	2	719	2	710	C.055	C.100
669	695	2	684	2	682	C.058	C.100
641	668	2	649	2	655	C.061	C.100
613	640	2	615	2	628	C.065	C.100
585	612	2	612	2	600	C.068	C.100
558	584	2	582	2	573	C.073	C.100
530	557	2	549	2	545	C.079	C.100
502	529	2	517	2	518	C.085	C.100
475	501	2	485	2	490	C.092	C.100
447	474	2	454	2	463	C.101	C.100
419	446	2	423	2	435	C.111	C.100
392	418	2	393	2	408	C.123	C.099
364	391	2	351	2	380	C.135	C.100
336	363	2	363	2	352	C.150	C.100
309	335	2	333	2	325	C.169	C.099
281	308	2	303	2	297	C.189	C.100
253	280	2	274	2	270	C.215	C.099
226	252	2	245	2	243	C.245	C.099
198	225	2	216	2	215	C.277	C.100
170	197	2	188	2	188	C.318	C.099
143	169	2	160	2	161	C.367	C.098
115	142	2	132	2	133	C.422	C.099
87	114	2	105	2	105	C.489	C.100

PO=0.0250 | ALFA=C.050
 P1=0.0600 | BETA=C.100

H1= 2.468 | S=0.040034
 H2= 3.169 | ASN= 203

NATURAL TRUNCATION POINT= 486 TRUE ALFA= C.0250
 TRUE BETA= C.0500

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPTANCE	BEST TRUNC	TRUE	TRUE
FROM	TO	RULE	ALFA	BETA
481	485	2	0.0441	C.1000
436	460	1	0.0499	0.0991
411	435	2	0.0487	0.0999

SAMPLE NUMBER	F C L D	A L F A	F C L D	B E T A
INTERVAL	ACPT	BEST TRUNC	ACPT	BEST TRUNC
FROM	TO	RULE	FROM	TO
366	410	2	408	0.0521
361	385	2	393	C.056
337	360	2	359	C.061
312	336	2	335	0.068
287	311	2	310	0.076
262	286	2	296	0.087
237	261	2	261	0.100
212	236	2	236	C.116
187	211	2	211	0.137
162	186	2	186	C.163
137	161	2	161	C.196
112	136	1	113	C.300
87	111	1	89	C.379
62	86	1	64	0.477

PO=0.0250 | ALFA=C.050
 P1=0.0700 | BETA=C.100

H1= 2.091 | S=0.043880
 H2= 2.684 | ASN= 133

NATURAL TRUNCATION POINT= 322 TRUE ALFA= C.0400
 TRUE BETA= C.0977

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPTANCE	BEST TRUNC	TRUE	TRUE
FROM	TO	RULE	ALFA	BETA
299	321	2	0.0414	C.099
276	298	1	0.0493	0.0986

SAMPLE NUMBER	F C L D	A L F A	F C L D	B E T A
INTERVAL	ACPT	BEST TRUNC	ACPT	BEST TRUNC
FROM	TO	RULE	FROM	TO
253	275	1	255	C.053
230	252	1	233	0.060
208	229	1	211	C.070
185	207	1	199	C.084
162	184	1	167	0.104
139	161	1	144	C.130
117	138	1	122	0.163
94	116	1	99	0.217
71	93	1	77	C.291
48	70	1	55	0.398

PC=0.0250	ALFA=C.050	H1= 1.843	S=0.047546
PI=0.0800	BETA=C.100	F2= 2.367	ASN= 96

NATURAL TRUNCATION POINT= 225	TRUE ALFA= 0.0475
	TRUE BETA= 0.0591

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPTANCE	BEST TRUNC	TRUE	TRUE
FRCM	FILE	PC INT	ALFA	BETA
208	228	1	0.0459	0.1000

SAMPLE NUMBER	F C L D	A L F A	F C L D	B E T A
INTERVAL	ACPT RULE	BEST TRUNC	ACPT RULE	BEST TRUNC
FRCM	FILE	PC INT	FILE	PC INT
186	207	1	197	0.052
165	185	2	175	0.060
144	164	2	154	0.073
123	143	2	132	0.091
102	122	2	111	0.120
81	101	3	90	0.164
60	80	3	69	0.230
39	59	3	49	0.338

PC=0.0250	ALFA=C.050	H1= 1.668	S=0.051109
PI=0.0900	BETA=C.100	F2= 2.141	ASN= 73

NATURAL TRUNCATION POINT= 170	TRUE ALFA= 0.0483
	TRUE BETA= 0.0569

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPTANCE	BEST TRUNC	TRUE	TRUE
FRCM	FILE	PC INT	ALFA	BETA
151	169	1	0.0440	0.0598

SAMPLE NUMBER	F C L D	A L F A	F C L D	B E T A
INTERVAL	ACPT RULE	BEST TRUNC	ACPT RULE	BEST TRUNC
FRCM	FILE	PC INT	FILE	PC INT
131	150	1	138	0.052
111	130	2	119	0.065
92	110	2	101	0.089
72	91	2	82	0.125
53	71	2	63	0.187
33	52	2	44	0.289

PC=0.0250	ALFA=C.050
PI=0.1000	BETA=C.100

H1= 1.535	S=0.054587
H2= 1.971	ASN= 53

NATURAL TRUNCATION POINT= 139	TRUE ALFA= C.0458
	TRUE BETA= C.0950

SAMPLE NUMBER INTERVAL		H L L D ACCEPTANCE		A L F A BEST TRUNC		A N D TRUE		B E T A TRUE	
FROM	TO	ELI	M	FCINT		ALFA		BETA	
120	138	2		138		0.0354		0.0598	
102	119	1		108		0.0493		0.0992	

SAMPLE NUMBER INTERVAL		F C L C ACPT RULE		A L F A TRUE ALFA		F C L C ACPT RULE		B E T A TRUE BETA	
FROM	TO	M	FCINT	ALFA	BETA	M	POINT	ALFA	BETA
84	101	2	101	0.044	0.107	1	91	0.066	0.100
65	83	2	79	0.050	0.127	1	74	0.095	0.100
47	64	2	54	0.048	0.206	1	57	0.150	0.099
29	46	2	33	0.049	0.346	1	40	0.250	0.095

PO=0.0050	ALFA=C.100	H1= 3.147	S=C.007213
PI=0.0100	BETA=C.100	H2= 3.147	ASN=1382

NATURAL TRUNCATION PCINT= 3486	TRUE ALFA= C.0971
	TRUE BETA= C.1001

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPTANCE	BEST TRUNC	TRUE	TRUE
FROM IC	FILE M	PCINT	ALFA	BETA
3347	3485	-UNDEF.-	-UNDEF.-	-UNDEF.-
3208	3346	1	0.0992	C.1000

SAMPLE NUMBER	F C L D	A L F A	H C L D	B E T A
INTERVAL	ACPT RULE	BEST TRUNC	ACPT RULE	BEST TRUNC
FROM IC	M	PCINT	M	PCINT
3070	1	3077	1	3121
2931	2	3069	1	2960
2793	1	2920	1	2806
2654	2	2792	1	2656
2515	2	2653	1	2509
2377	2	2514	2	2508
2238	2	2376	2	2362
2100	2	2237	2	2218
1961	2	2099	2	2075
1823	2	1960	2	1933
1684	4	1822	2	1791
1545	4	1683	2	1650
1407	4	1544	2	1509
1268	4	1406	2	1369
1130	4	1267	2	1230
991	4	1129	2	1090
852	4	990	2	951
714	4	851	2	812
575	4	713	2	673
437	4	574	2	532

PG=0.0050	ALFA=C.100	H1= 1.568	S=0.010839
PI=0.0200	BETA=C.100	H2= 1.568	ASN= 229

NATURAL TRUNCATION PCINT= 514	TRUE ALFA= C.0960
	TRUE BETA= C.0999

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPTANCE	BEST TRUNC	TRUE	TRUE
FROM IC	FILE M	PCINT	ALFA	BETA
422	513	1	0.0959	C.1000

SAMPLE NUMBER	F C L D	A L F A	H C L D	B E T A
INTERVAL	ACPT RULE	BEST TRUNC	ACPT RULE	BEST TRUNC
FROM IC	M	PCINT	M	PCINT
330	1	421	1	401
237	2	329	1	302
145	2	217	1	206

PC=0.0050	ALFA=C.100	H1= 1.209	S=0.014003
PI=0.0300	BEIA=C.100	H2= 1.209	ASN= 105

NATURAL TRUNCATION POINT= 230	TRUE ALFA= C.0006
	TRUE BEIA= 0.0553

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPTANCE	BEST TRUNC	TRUE	TRUE
FROM	TO	FILE M	PCINT	ALFA
158	229	-UNDEF.-	-UNDEF.-	-UNDEF.-

SAMPLE NUMBER	F C L D	A L F A	H O L D	B E T A
INTERVAL	ACPT	BEST	ACPT	BEST
FROM	TO	FILE M	PCINT	ALFA
87	157	1	103	0.099

PO=0.0050	ALFA=C.100	H1= 1.039	S=C.016923
PI=0.0400	BEIA=C.100	H2= 1.039	ASN= 64

NATURAL TRUNCATION POINT= 121	TRUE ALFA= C.0072
	TRUE BEIA= 0.0581

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPTANCE	BEST TRUNC	TRUE	TRUE
FROM	TO	FILE M	PCINT	ALFA
62	120	1	119	0.0955

PC=0.0050	ALFA=C.100	H1= 0.935	S=C.019703
PI=0.0500	BEIA=C.100	H2= 0.935	ASN= 45

NATURAL TRUNCATION POINT= 55	TRUE ALFA= C.0762
	TRUE BEIA= 0.1000

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPTANCE	BEST TRUNC	TRUE	TRUE
FROM	TO	FILE M	PCINT	ALFA
48	58	-UNDEF.-	-UNDEF.-	-UNDEF.-

PC=0.0050	ALFA=C.100	H1= 0.864	S=C.022371
PI=0.0600	BEIA=C.100	H2= 0.864	ASN= 34

NATURAL TRUNCATION POINT= 84	TRUE ALFA= C.0687
	TRUE BEIA= 0.1012

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPTANCE	BEST TRUNC	TRUE	TRUE
FROM	TO	FILE M	PCINT	ALFA
39	83	-UNDEF.-	-UNDEF.-	-UNDEF.-

PC=0.0050	ALFA=C.100	H1= 0.812	S=0.024963
PI=0.0700	BETA=C.100	H2= 0.812	ASN= 27

NATURAL TRUNCATION PCINT= 73	TRUE ALFA= C.0018
	TRUE BETA= C.1010

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPTANCE	BEST TRUNC	TRUE	TRUE
FROM	TO	PCINT	ALFA	BETA
33	72	-UNDEF.-	-UNDEF.-	-UNDEF.-

PC=0.0050	ALFA=C.100	H1= 0.771	S=0.027489
PI=0.0800	BETA=C.100	H2= 0.771	ASN= 22

NATURAL TRUNCATION PCINT= 65	TRUE ALFA= C.0091
	TRUE BETA= C.0072

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPTANCE	BEST TRUNC	TRUE	TRUE
FROM	TO	PCINT	ALFA	BETA
29	64	1	0.0580	0.0095

PC=0.0050	ALFA=C.100	H1= 0.737	S=0.029969
PI=0.0900	BETA=C.100	H2= 0.737	ASN= 18

NATURAL TRUNCATION PCINT= 59	TRUE ALFA= C.0039
	TRUE BETA= C.1017

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPTANCE	BEST TRUNC	TRUE	TRUE
FROM	TO	PCINT	ALFA	BETA
25	57	-UNDEF.-	-UNDEF.-	-UNDEF.-

PC=0.0050	ALFA=C.100	H1= 0.710	S=0.032411
PI=0.1000	BETA=C.100	H2= 0.710	ASN= 16

NATURAL TRUNCATION PCINT= 53	TRUE ALFA= C.0005
	TRUE BETA= C.1043

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPTANCE	BEST TRUNC	TRUE	TRUE
FROM	TO	PCINT	ALFA	BETA
22	52	-UNDEF.-	-UNDEF.-	-UNDEF.-

PO=0.0100	ALFA=C.100	H1= 3.124	S=0.014435
PI=0.0200	BETA=C.100	H2= 3.124	ASN= 686

NATURAL TRUNCATION POINT= 1672	TRUE ALFA= C.0333
	TRUE BETA= C.0996

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPANCE	BEST TRUNC	TRUE	TRUE
FROM	TO	FILE	PCINT	ALFA
1602	1671	1	1672	C.0983

SAMPLE NUMBER	F C L D	A L F A	H C L D	B E T A
INTERVAL	ACPT RULE	BEST TRUNC	ACPT RULE	BEST TRUNC
FROM	TO	FILE	PCINT	ALFA
1533	1601	1	1543	C.100
1464	1532	2	1532	O.C99
1395	1463	2	1439	O.100
1325	1394	2	1343	O.100
1256	1324	2	1324	O.097
1187	1255	2	1253	O.100
1117	1186	2	1165	O.100
1048	1116	2	1081	O.100
979	1047	2	998	O.100
910	978	2	917	O.100
840	909	2	909	O.C97
771	839	2	838	O.100
702	770	2	760	O.100
633	701	2	683	O.100
563	632	2	608	O.100
494	562	2	533	O.100
425	493	2	459	O.100
355	424	2	386	O.C99
286	354	2	314	O.C99
217	285	2	243	O.C99

PO=0.0100	ALFA=C.100	H1= 1.964	S=0.018233
PI=0.0300	BETA=C.100	H2= 1.964	ASN= 215

NATURAL TRUNCATION POINT= 492	TRUE ALFA= C.0378
	TRUE BETA= C.0993

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPANCE	BEST TRUNC	TRUE	TRUE
FROM	TO	FILE	PCINT	ALFA
437	491	1	491	O.C960

SAMPLE NUMBER	F C L D	A L F A	H C L D	B E T A
INTERVAL	ACPT RULE	BEST TRUNC	ACPT RULE	BEST TRUNC
FROM	TO	FILE	PCINT	ALFA
382	436	1	392	O.100
327	381	1	381	O.C99
273	326	1	311	O.100
218	272	1	239	O.100
163	217	1	172	O.C99
108	162	1	110	O.C99

PC=0.0100	ALFA=C.100	H1=1.551	S=0.021715
PI=0.0400	BETA=C.100	H2=1.551	ASN=113

NATURAL TRUNCATION POINT= 256	TRUE ALFA= C.0949
	TRUE BETA= C.0982

SAMPLE NUMBER		F C L D		A L F A		A N D		B E T A	
INTERVAL		ACCEPTANCE	BEST TRUNC	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE
FROM	TO	RULE	PC INT	ALFA	BETA	ALFA	BETA	ALFA	BETA
210	255	1	255	0.0928	0.0995				

SAMPLE NUMBER		F C L D		A L F A		H O L D		B E T A	
INTERVAL		ACPT	BEST	TRUE	TRUE	ACPT	BEST	TRUE	TRUE
FROM	TO	RULE	TRUNC	ALFA	BETA	RULE	TRUNC	ALFA	BETA
164	209	1	174	0.099	0.117	1	198	0.117	0.100
118	163	2	163	0.090	0.132	1	149	0.163	0.100
72	117	2	108	0.099	0.154	1	102	0.254	0.100

PO=0.0100	ALFA=C.100	H1=1.331	S=0.024985
PI=0.0500	BETA=C.100	H2=1.331	ASN=72

NATURAL TRUNCATION POINT= 174	TRUE ALFA= C.0922
	TRUE BETA= C.0998

SAMPLE NUMBER		F C L D		A L F A		A N D		B E T A	
INTERVAL		ACCEPTANCE	BEST TRUNC	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE
FROM	TO	RULE	PC INT	ALFA	BETA	ALFA	BETA	ALFA	BETA
134	173	1	169	0.0824	0.0999				

SAMPLE NUMBER		F C L D		A L F A		H O L D		B E T A	
INTERVAL		ACPT	BEST	TRUE	TRUE	ACPT	BEST	TRUE	TRUE
FROM	TO	RULE	TRUNC	ALFA	BETA	RULE	TRUNC	ALFA	BETA
94	133	1	113	0.100	0.113	1	126	0.113	0.100
54	93	2	53	0.076	0.162	1	85	0.167	0.099

PC=0.0100	ALFA=C.100	H1=1.192	S=0.028111
PI=0.0600	BETA=C.100	H2=1.192	ASN=51

NATURAL TRUNCATION POINT= 114	TRUE ALFA= C.0967
	TRUE BETA= C.0991

SAMPLE NUMBER		F C L D		A L F A		A N D		B E T A	
INTERVAL		ACCEPTANCE	BEST TRUNC	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE
FROM	TO	RULE	PC INT	ALFA	BETA	ALFA	BETA	ALFA	BETA
78	113	1	112	0.0854	0.1000				

SAMPLE NUMBER		F C L D		A L F A		H O L D		B E T A	
INTERVAL		ACPT	BEST	TRUE	TRUE	ACPT	BEST	TRUE	TRUE
FROM	TO	RULE	TRUNC	ALFA	BETA	RULE	TRUNC	ALFA	BETA
41	77	1	54	0.0981	0.167	1	73	0.132	0.100

PC=C.0100	ALFA=C.100	H1=1.094	S=0.031123
P1=0.0700	BETA=C.100	H2=1.094	ASN=39

NATURAL TRUNCATION POINT=	100	TRUE ALFA=	C.0000
		TRUE BETA=	C.0000

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEP TANCE	BEST TRUNC	TRUE	TRUE
FROM	TO	RULE M	PCINT	ALFA
68	55	1	57	0.0670

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACPT	BEST	ACPT	BEST
FROM	TO	TRUNC	TRUNC	TRUNC
FROM	TO	PCINT	ALFA	BETA
36	67	1	57	0.0990

PC=0.0100	ALFA=C.100	H1=1.021	S=0.034004
P1=0.0800	BETA=C.100	H2=1.021	ASN=31

NATURAL TRUNCATION POINT=	60	TRUE ALFA=	C.0045
		TRUE BETA=	C.0000

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEP TANCE	BEST TRUNC	TRUE	TRUE
FROM	TO	RULE M	PCINT	ALFA
30	59	-INFE.-	-UNDEF.-	-UNDEF.-

PC=0.0100	ALFA=C.100	H1=0.963	S=0.036977
P1=0.0900	BETA=C.100	H2=0.963	ASN=25

NATURAL TRUNCATION POINT=	54	TRUE ALFA=	C.0000
		TRUE BETA=	C.0000

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEP TANCE	BEST TRUNC	TRUE	TRUE
FROM	TO	RULE M	PCINT	ALFA
27	53	1	51	0.0804

PC=0.0100	ALFA=C.100	H1=0.916	S=0.039747
P1=0.1000	BETA=C.100	H2=0.916	ASN=21

NATURAL TRUNCATION POINT=	49	TRUE ALFA=	C.0785
		TRUE BETA=	C.0000

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEP TANCE	BEST TRUNC	TRUE	TRUE
FROM	TO	RULE M	PCINT	ALFA
24	48	1	46	0.0743

PC=0.0150 ALFA=C.100
PJ=0.0200 BETA=C.100

H1= 3.101 S=0.021659
H2= 3.101 ASN= 423

NATURAL TRUNCATION POINT= 1113

TRUE ALFA= C.0994
TRUE BETA= C.0992

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACPT RULE	BEST TRUNC	TRUE ALFA	TRUE BETA
FROM TO	M	POINT		
1067 1112	1	1079	0.0963	C.1000
1021 1066	1	1027	0.0994	C.1000

SAMPLE NUMBER	F C L D	A L F A	H O L D	B E T A
INTERVAL	ACPT RULE	BEST TRUNC	ACPT RULE	BEST TRUNC
FROM TO	M	POINT	M	POINT
		TRUE ALFA		TRUE BETA
575 1020	2	1020	1	977
929 974	2	961	1	929
882 928	2	897	2	928
836 881	2	836	2	879
790 835	2	835	2	831
744 789	2	777	2	743
698 743	2	721	2	736
652 697	2	666	2	689
605 651	2	612	2	642
559 604	2	559	2	595
513 558	2	558	2	548
467 512	2	507	2	501
421 466	2	456	2	455
375 420	2	405	2	408
328 374	2	355	2	362
282 327	2	306	2	316
236 281	2	258	2	270
190 235	2	209	2	223
144 189	2	162	2	177

PO=0.0150 ALFA=C.100
PJ=0.0400 BETA=C.100

H1= 2.183 S=0.025541
H2= 2.183 ASN= 191

NATURAL TRUNCATION POINT= 477

TRUE ALFA= C.0923
TRUE BETA= C.0997

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACPT RULE	BEST TRUNC	TRUE ALFA	TRUE BETA
FROM TO	M	POINT		
438 476	1	471	0.0915	C.1000
399 437	1	423	0.0976	C.0999

SAMPLE NUMBER	F C L D	A L F A	H O L D	B E T A
INTERVAL	ACPT RULE	BEST TRUNC	ACPT RULE	BEST TRUNC
FROM TO	M	POINT	M	POINT
		TRUE ALFA		TRUE BETA
360 398	1	362	1	378
321 359	1	359	1	336
282 320	1	305	1	295
243 281	1	253	1	255
203 242	1	205	1	215
164 202	1	202	1	175
125 163	1	159	1	136
86 124	1	115	1	97

PO=0.0150 ALFA=C.1CC HI=1.772 S=C.029174
 PI=0.0500 BETA=C.100 H2=1.772 ASN=110

NATURAL TRUNCATION POINT= 267 TRUE ALFA= C.0910
 TRUE BETA= C.0991

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPTANCE	BEST TRUNC	TRUE	TRUE
FROM IC	FILE M	POINT	ALFA	BETA
233 266		259	0.0889	C.1000

SAMPLE NUMBER	F C L D	A L F A	F C L D	B E T A
INTERVAL	ACPT RULE	BEST TRUNC	ACPT RULE	BEST TRUNC
FROM IC	M	POINT	M	POINT
198 232	1	216	1	221
164 197	2	197	1	184
130 163	2	160	1	148
96 129	2	114	1	114
61 95	2	73	1	79

PO=0.0150 ALFA=C.1CC HI=1.533 S=C.032631
 PI=0.0600 BETA=C.100 H2=1.533 ASN=73

NATURAL TRUNCATION POINT= 170 TRUE ALFA= C.0939
 TRUE BETA= C.0997

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPTANCE	BEST TRUNC	TRUE	TRUE
FROM IC	FILE M	POINT	ALFA	BETA
139 169		165	0.0934	0.0999

SAMPLE NUMBER	F C L D	A L F A	F C L D	B E T A
INTERVAL	ACPT RULE	BEST TRUNC	ACPT RULE	BEST TRUNC
FROM IC	M	POINT	M	POINT
109 138	1	116	1	133
78 108	2	108	1	100
47 77	2	72	1	68

PO=0.0150 ALFA=C.1CC HI=1.375 S=0.035558
 PI=0.0700 BETA=C.100 H2=1.375 ASN=54

NATURAL TRUNCATION POINT= 122 TRUE ALFA= C.0936
 TRUE BETA= C.0966

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPTANCE	BEST TRUNC	TRUE	TRUE
FROM IC	FILE M	POINT	ALFA	BETA
94 121		115	0.0890	0.0996

SAMPLE NUMBER	F C L D	A L F A	F C L D	B E T A
INTERVAL	ACPT RULE	BEST TRUNC	ACPT RULE	BEST TRUNC
FROM IC	M	POINT	M	POINT
67 93	1	73	1	97
39 66	2	66	1	59

PC=0.0150	ALFA=C.100	H1=1.261	S=0.035184
PI=0.0900	BETA=C.100	H2=1.261	ASN=42

NATURAL TRUNCATION PCINT=	109	TRUE ALFA=	0.0751
		TRUE BETA=	0.0992

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPTANCE	BEST TRUNC	TRUE	TRUE
FROM	TO	FILE	PCINT	ALFA
84	108	1	104	0.0727
58	83	1	79	0.0992

SAMPLE NUMBER	F C L D	A L F A	H O L D	B E T A
INTERVAL	ACPT	BEST	ACPT	BEST
FROM	TO	FILE	PCINT	ALFA
33	57	1	35	0.0971
				0.1671

PO=0.0150	ALFA=C.100	H1=1.174	S=0.042330
PI=0.0900	BETA=C.100	H2=1.174	ASN=34

NATURAL TRUNCATION PCINT=	75	TRUE ALFA=	0.0751
		TRUE BETA=	0.0991

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPTANCE	BEST TRUNC	TRUE	TRUE
FROM	TO	FILE	PCINT	ALFA
52	74	1	74	0.0841

SAMPLE NUMBER	F C L D	A L F A	F O L D	B E T A
INTERVAL	ACPT	BEST	ACPT	BEST
FROM	TO	FILE	PCINT	ALFA
23	51	1	36	0.0981
				0.1421

PO=0.0150	ALFA=C.100	H1=1.106	S=0.045410
PI=0.1000	BETA=C.100	H2=1.106	ASN=29

NATURAL TRUNCATION PCINT=	69	TRUE ALFA=	0.0721
		TRUE BETA=	0.0973

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPTANCE	BEST TRUNC	TRUE	TRUE
FROM	TO	FILE	PCINT	ALFA
47	68	1	66	0.0695

SAMPLE NUMBER	F C L D	A L F A	H O L D	B E T A
INTERVAL	ACPT	BEST	ACPT	BEST
FROM	TO	FILE	PCINT	ALFA
25	46	1	37	0.0971
				0.1151

PC=0.0200 ALFA=C.100
PI=0.0300 BETA=C.100

F1= 5.285 S=0.024672
H2= 5.285 ASS=1100

NATURAL TRUNCATION POINT= 3093

TRUE ALFA= C.0996
TRUE BETA= C.0995

SAMPLE NUMBER	F C L C	A L F A	A N D	B E T A
INTERVAL	ACCEPTANCE	BEST TRUNC	TRUE	TRUE
FROM TO	RULE M	PCINT	ALFA	BETA
3052 3052	2	3076	0.0973	0.1000
3011 3051	2	3031	0.0977	0.1000
2971 3010	2	2987	0.0982	0.1000
2930 2970	2	2943	0.0987	0.1000
2890 2929	2	2899	0.0993	0.1000
2849 2888	2	2855	0.0997	0.1000

SAMPLE NUMBER	F C L C	A L F A	H C L C	B E T A
INTERVAL	ACPT RULE	BEST TRUNC	ACPT RULE	BEST TRUNC
FROM TO	M	PCINT	M	PCINT
2809 2848	2	2848	2	2813
2768 2808	2	2804	2	2770
2728 2767	2	2753	2	2728
2687 2727	3	2702	3	2727
2647 2686	3	2653	3	2685
2606 2646	3	2604	3	2643
2566 2605	3	2555	3	2601
2525 2565	3	2506	3	2559
2485 2524	3	2457	3	2517
2444 2484	3	2408	3	2476
2403 2443	3	2359	3	2434
2363 2402	3	2310	3	2392
2322 2362	3	2261	3	2351
2282 2321	3	2212	3	2310
2241 2281	3	2163	3	2268
2201 2240	3	2114	3	2227
2160 2200	3	2065	3	2186
2120 2159	3	2016	3	2144
2079 2119	3	1967	3	2103
2039 2078	3	1918	3	2062
1998 2038	3	1869	3	2021
1958 1997	3	1820	3	1980
1917 1957	3	1771	3	1939
1877 1916	3	1722	3	1898
1836 1876	3	1673	3	1857
1795 1835	3	1624	3	1816
1755 1794	3	1575	3	1775
1714 1754	3	1526	3	1734
1674 1713	3	1477	3	1694
1633 1673	3	1428	3	1653
1593 1632	3	1379	3	1612
1552 1592	3	1330	3	1571
1512 1551	3	1281	3	1530
1471 1511	3	1232	3	1490
1431 1470	3	1183	3	1449
1390 1430	3	1134	3	1408
1350 1389	3	1085	3	1367
1309 1349	3	1036	3	1327
1269 1308	3	987	3	1286
1228 1268	3	938	3	1245
1188 1227	3	889	3	1205
1147 1187	3	840	3	1164
1106 1146	3	791	3	1123
1066 1105	3	742	3	1083
1025 1065	3	693	3	1042

985	1024	7	1011	0.100	0.226	3	1002	0.260	0.099
944	984	7	969	0.100	0.247	3	961	0.270	0.100
904	943	7	927	0.099	0.259	3	920	0.281	0.100
863	903	7	886	0.100	0.269	3	830	0.294	0.100
823	862	7	844	0.100	0.283	3	839	0.307	0.100
782	822	7	802	0.099	0.297	3	799	0.322	0.099
742	781	7	761	0.100	0.311	3	758	0.336	0.100
701	741	7	720	0.100	0.325	3	717	0.351	0.100
661	700	7	678	0.099	0.343	3	677	0.369	0.099
620	660	7	637	0.099	0.359	3	636	0.386	0.100
580	619	7	596	0.100	0.377	3	596	0.406	0.099
539	579	7	555	0.100	0.397	3	555	0.426	0.099
493	538	7	514	0.100	0.417	3	514	0.447	0.100
458	497	7	473	0.099	0.440	3	473	0.470	0.100
417	457	7	432	0.099	0.464	3	432	0.494	0.100
377	416	7	392	0.099	0.487	3	391	0.521	0.099
336	376	7	352	0.100	0.511	3	350	0.551	0.099
296	335	7	312	0.100	0.539	3	308	0.581	0.099
255	295	7	272	0.099	0.570	3	265	0.613	0.099
215	254	7	223	0.099	0.600	3	221	0.647	0.100

PC=0.0200	ALFA=C.100	H1= 3.073	S=0.028883
PI=0.0400	BETA=C.100	H2= 3.078	ASN= 337

NATURAL TRUNCATION POINT= 834	TRUE ALFA= C.0337
	TRUE BETA= C.0990

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPTANCE	BEST TRUNC	TRUE	TRUE
FROM	TO	PCINT	ALFA	BETA
799	833	835	0.0957	C.1000
765	798	767	0.0984	C.1000

SAMPLE NUMBER	F C L D	A L F A	F C L D	B E T A
INTERVAL	ACPT	BEST TRUNC	ACPT	BEST TRUNC
FROM	RULE	PCINT	RULE	PCINT
	M	ALFA	M	BETA
730	2	0.099	1	0.102
696	2	0.100	1	0.101
661	2	0.100	2	0.106
626	2	0.100	2	0.110
592	2	0.099	2	0.116
557	2	0.100	2	0.122
522	2	0.100	2	0.130
483	2	0.100	2	0.140
453	2	0.099	2	0.151
419	3	0.100	2	0.164
384	4	0.099	2	0.180
349	4	0.099	2	0.199
315	4	0.099	2	0.223
280	4	0.099	2	0.250
246	4	0.100	2	0.282
211	4	0.100	2	0.323
176	4	0.099	2	0.369
142	4	0.099	2	0.424
107	4	0.099	2	0.492

PO=0.0200	ALFA=C.100	H1= 2.319	S=0.032817
PI=0.0500	BETA=C.100	H2= 2.319	ASN= 169

NATURAL TRUNCATION POINT= 406	TRUE ALFA= C.0373
	TRUE BETA= C.0586

SAMPLE NUMBER		H C L D		A L F A		A N D		B E T A	
INTERVAL		ACCEPTANCE		BEST TRUNC		TRUE		TRUE	
FROM	TO	RULE	M	PCINT		ALFA		BETA	
376	405					0.0538		0.0599	

SAMPLE NUMBER		H C L D		A L F A		H O L D		B E T A	
INTERVAL		ACPT	BEST	TRUE		ACPT	BEST	TRUE	
FROM	TO	RULE	TRUNC	ALFA	BETA	RULE	TRUNC	ALFA	BETA
		M	PCINT			M	PCINT		
345	375	1	355	0.100	0.100	1	350	0.100	0.100
315	344	2	344	0.056	0.103	1	324	0.109	0.100
284	314	2	307	0.099	0.107	1	292	0.120	0.100
254	283	2	265	0.099	0.119	1	261	0.136	0.100
224	253	2	227	0.100	0.137	1	230	0.158	0.100
193	223	3	223	0.056	0.145	1	199	0.187	0.100
163	192	3	150	0.100	0.167	1	168	0.226	0.100
132	162	3	154	0.099	0.214	1	138	0.281	0.099
102	131	3	120	0.099	0.275	1	107	0.352	0.100
71	101	3	87	0.099	0.360	1	77	0.456	0.098

PO=0.0200	ALFA=C.100	H1= 1.927	S=0.036545
PI=0.0600	BETA=C.100	H2= 1.927	ASN= 105

NATURAL TRUNCATION POINT= 245	TRUE ALFA= C.0365
	TRUE BETA= C.0583

SAMPLE NUMBER		H C L D		A L F A		A N D		B E T A	
INTERVAL		ACCEPTANCE		BEST TRUNC		TRUE		TRUE	
FROM	TO	RULE	M	PCINT		ALFA		BETA	
217	244					0.0923		0.0999	

SAMPLE NUMBER		H C L D		A L F A		H O L D		B E T A	
INTERVAL		ACPT	BEST	TRUE		ACPT	BEST	TRUE	
FROM	TO	RULE	TRUNC	ALFA	BETA	RULE	TRUNC	ALFA	BETA
		M	PCINT			M	PCINT		
190	216	1	197	0.100	0.103	1	204	0.104	0.100
163	189	2	189	0.094	0.109	1	176	0.123	0.100
135	162	2	155	0.099	0.123	1	148	0.152	0.099
103	134	2	119	0.099	0.164	1	120	0.195	0.099
81	107	2	86	0.098	0.235	1	92	0.261	0.099
53	80	2	55	0.098	0.351	1	65	0.366	0.093

PC=0.0200	ALFA=C.100	H1= 1.684	S=0.040125
PI=0.0700	BETA=C.100	H2= 1.684	ASN= 73

NATURAL TRUNCATION POINT= 167	TRUE ALFA= C.0954
	TRUE BETA= C.0999

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A
INTERVAL	ACCEPIANCE	BEST TRUNC	TRUE	TRUE
FROM	TO	RULE M	PCINT	ALFA
				BETA
142	166	-UNDEF.-	-UNDEF.-	-UNDEF.-

SAMPLE NUMBER	F C L D	A L F A	H O L D	B E T A					
INTERVAL	ACPT	BEST	ACPT	BEST					
FROM	RULE	TRUNC	RULE	TRUNC					
	M	PCINT	M	PCINT					
		ALFA		BETA					
		TRUE		TRUE					
		BETA		BETA					
117	141	1	123	0.100	0.110	1	136	0.113	0.100
92	116	2	116	0.091	0.122	1	109	0.146	0.099
67	91	2	86	0.099	0.156	1	32	0.200	0.100
42	66	2	55	0.100	0.251	1	57	0.301	0.093

PO=0.0200	ALFA=C.100	H1= 1.516	S=0.043587
PI=0.0800	BETA=C.100	H2= 1.516	ASN= 55

NATURAL TRUNCATION POINT= 127	TRUE ALFA= C.0938
	TRUE BETA= C.0990

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A	
INTERVAL	ACCEPIANCE	BEST TRUNC	TRUE	TRUE	
FROM	TO	RULE M	PCINT	ALFA	
				BETA	
104	126	1	124	0.0921	0.1999

SAMPLE NUMBER	F C L D	A L F A	H O L D	B E T A					
INTERVAL	ACPT	BEST	ACPT	BEST					
FROM	RULE	TRUNC	RULE	TRUNC					
	M	PCINT	M	PCINT					
		ALFA		BETA					
		TRUE		TRUE					
		BETA		BETA					
81	103	1	87	0.099	0.115	1	98	0.115	0.100
58	80	2	80	0.088	0.134	1	74	0.160	0.099
35	57	2	54	0.098	0.189	1	51	0.252	0.097

PO=0.0200	ALFA=C.100	H1= 1.392	S=0.046953
PI=0.0900	BETA=C.100	H2= 1.392	ASN= 43

NATURAL TRUNCATION POINT= 94	TRUE ALFA= C.0971
	TRUE BETA= C.0979

SAMPLE NUMBER	F C L D	A L F A	A N D	B E T A	
INTERVAL	ACCEPIANCE	BEST TRUNC	TRUE	TRUE	
FROM	TO	RULE M	PCINT	ALFA	
				BETA	
73	93	1	91	0.0943	0.0995

SAMPLE NUMBER	F C L D	A L F A	H O L D	B E T A					
INTERVAL	ACPT	BEST	ACPT	BEST					
FROM	RULE	TRUNC	RULE	TRUNC					
	M	PCINT	M	PCINT					
		ALFA		BETA					
		TRUE		TRUE					
		BETA		BETA					
51	72	1	55	0.099	0.128	1	68	0.131	0.096
30	50	2	50	0.085	0.171	1	46	0.213	0.093

PC=0.0200		ALFA=C.100		H1= 1.297		S=0.050253	
PI=0.1000		BEIA=C.100		H2= 1.297		ASN= 35	
NATURAL TRUNCATION POINT= EE				TRUE ALFA= C.0806			
				TRUE BEIA= C.1000			
SAMPLE NUMBER		F C L D		A L F A		A N D	
INTERVAL		ACCEPTANCE		BEST TRUNC		TRUE	
FROM TO		RULE M		PC INI		ALFA	
66		E5		-LNDEF.-		-LNDEF.-	
SAMPLE NUMBER		F C L D		A L F A		H O L D	
INTERVAL		ACPT		BEST		ACPT	
FROM TO		RULE		TRUNC		RULE	
46		65		57		63	
26		45		26		42	
				C.058		C.111	
				C.055		C.251	
						C.181	
						C.099	

PO=0.0250	ALFA=C.100	H1= 4.526	S=0.031934
PI=0.0400	BETA=C.100	E2= 4.526	ASS= 662

NATURAL TRUNCATION POINT= 1739	TRUE ALFA= C.0990
	TRUE BETA= C.0994

SAMPLE NUMBER INTERVAL		F C L C	A L F A	A N D	B E T A
FROM	TO	ACCEP RULE	BEST TRUNC POINT	TRUE ALFA	TRUE BETA
1703	1738	2	1730	0.0980	C.1000
1677	1707	2	1695	0.0966	C.1000
1645	1676	1	1648	0.1000	C.0994
1614	1644	2	1628	0.0983	C.1000
1583	1613	2	1595	0.0992	C.1000

SAMPLE NUMBER INTERVAL		F C L C	A L F A	F C L C	B E T A
FROM	TO	ACPT RULE	BEST TRUNC POINT	TRUE ALFA	TRUE BETA
1551	1582	2	1562	C.1000	C.1000
1520	1550	2	1529	0.1011	C.1000
1489	1519	2	1496	0.1021	C.1000
1457	1488	2	1464	0.1041	C.1000
1426	1456	2	1432	0.1055	C.1000
1395	1425	2	1399	0.1077	C.1000
1363	1394	2	1367	0.1099	C.1000
1332	1362	2	1335	0.1110	C.1000
1301	1331	2	1303	0.1112	C.1000
1270	1300	2	1271	0.1115	C.1000
1238	1269	2	1239	0.1117	C.1000
1207	1237	2	1207	0.1119	C.1000
1176	1206	3	1175	0.1122	C.1000
1144	1175	3	1143	0.1125	C.1000
1113	1143	3	1112	0.1129	C.1000
1082	1112	3	1080	0.1132	C.1000
1050	1081	3	1049	0.1136	C.1000
1019	1049	3	1017	0.1140	C.1000
988	1018	3	986	0.1145	C.1000
955	987	3	954	0.1150	C.1000
925	955	3	922	0.1155	C.1000
894	924	3	891	0.1162	C.1000
862	893	3	859	0.1168	C.1000
831	861	3	828	0.1175	C.1000
800	830	3	796	0.1182	C.1000
769	799	3	765	0.1191	C.1000
737	768	3	734	0.1200	C.0995
706	736	3	702	0.1209	C.1000
675	705	3	671	0.1220	C.0999
643	674	3	639	0.1231	C.1000
612	642	3	608	0.1244	C.1000
581	611	3	577	0.1259	C.0999
549	580	3	545	0.1272	C.1000
518	548	3	514	0.1289	C.0999
487	517	3	482	0.1305	C.1000
455	486	3	451	0.1325	C.0999
424	454	3	420	0.1347	C.0999
393	423	3	388	0.1368	C.1000
361	392	3	357	0.1393	C.0999
330	360	3	326	0.1422	C.0998
299	329	3	294	0.1449	C.0999
267	298	3	262	0.1480	C.1000
236	266	3	231	0.1518	C.0998
205	235	3	198	0.1552	C.1000
174	204	3	166	0.1598	C.0998
142	173	3			

PC=0.0250 ALFA=C.100 H1= 3.055 S=0.036121
 P1=0.0500 BETA=C.100 H2= 3.055 ASN= 263

NATURAL TRUNCATION POINT= 666 TRUE ALFA= C.0982
 TRUE BETA= C.0989

SAMPLE NUMBER INTERVAL		F C L D ACCEPTANCE RULE M	A L F A BEST TRUNC POINT	A N D TRUE ALFA	B E T A TRUE BETA
FROM	TO				
639	665	1	642	0.0950	0.0999
611	638	1	612	0.0976	0.0999

SAMPLE NUMBER INTERVAL		F C L D ACPT RULE	BEST TRUNC POINT	A L F A TRUE ALFA	B E T A TRUE BETA	F C L D ACPT RULE	BEST TRUNC POINT	A L F A TRUE ALFA	B E T A TRUE BETA
FROM	TO								
583	610	2	610	0.0957	0.1000	1	583	0.1011	0.1000
556	582	2	579	0.1000	0.1000	2	582	0.1011	0.1000
528	555	2	540	0.1000	0.1003	2	554	0.1005	0.1000
500	527	2	503	0.1000	0.1006	2	525	0.1009	0.1000
473	499	2	459	0.0998	0.1008	2	496	0.1114	0.1000
445	472	2	468	0.1000	0.1111	2	468	0.1211	0.1000
417	444	2	433	0.0999	0.1118	2	440	0.1299	0.1000
390	416	2	400	0.0999	0.1277	2	412	0.1399	0.1000
362	389	2	368	0.1000	0.1388	2	384	0.1500	0.1000
334	361	2	336	0.1000	0.1522	2	356	0.1633	0.1000
307	333	2	333	0.0997	0.1577	2	328	0.1799	0.0999
279	306	2	305	0.1000	0.1699	2	300	0.1988	0.1000
251	278	2	274	0.1000	0.1911	2	272	0.2200	0.1000
224	250	2	243	0.0999	0.2200	2	244	0.2477	0.1000
196	223	2	213	0.0998	0.2533	2	217	0.2822	0.0999
168	195	2	184	0.0999	0.2889	2	189	0.3200	0.0999
140	167	2	155	0.1000	0.3335	2	161	0.3666	0.0999
113	139	2	126	0.0999	0.3911	2	133	0.4211	0.1000
85	112	2	97	0.0997	0.4622	2	106	0.4994	0.0997

P0=0.0250 ALFA=C.100 H1= 2.409 S=0.040084
 P1=0.0600 BETA=C.100 H2= 2.409 ASN= 150

NATURAL TRUNCATION POINT= 360 TRUE ALFA= C.0981
 TRUE BETA= C.0985

SAMPLE NUMBER INTERVAL		F C L D ACCEPTANCE RULE M	A L F A BEST TRUNC POINT	A N D TRUE ALFA	B E T A TRUE BETA
FROM	TO				
335	359	1	344	0.0942	0.0999
310	334	1	317	0.0999	0.0999

SAMPLE NUMBER INTERVAL		F C L D ACPT RULE	BEST TRUNC POINT	A L F A TRUE ALFA	B E T A TRUE BETA	F C L D ACPT RULE	BEST TRUNC POINT	A L F A TRUE ALFA	B E T A TRUE BETA
FROM	TO								
285	309	2	309	0.0996	0.1022	1	291	0.1088	0.1000
260	284	2	278	0.1000	0.1055	1	265	0.1118	0.1000
235	259	2	244	0.1000	0.1115	1	240	0.1322	0.0999
210	234	2	212	0.1000	0.1311	1	214	0.1499	0.1000
185	209	2	209	0.0996	0.1377	1	189	0.1733	0.0999
160	184	2	181	0.0999	0.1577	1	164	0.2005	0.0999
135	159	2	152	0.0999	0.1911	1	139	0.2488	0.0999
110	134	2	124	0.0999	0.2338	1	114	0.3044	0.0999
86	109	2	96	0.0997	0.3007	1	89	0.3788	0.0997
61	85	2	70	0.0999	0.3887	1	64	0.4777	0.0997

PO=0.0250	ALFA=C.100	H1= 2.040	S=0.043383
PI=0.0700	BETA=C.100	H2= 2.040	ASD= 99

NATURAL TRUNCATION PCINT= 229	TRUE ALFA= C.0985
	TRUE BETA= C.0975

SAMPLE NUMBER		F C L D		A L F A		A N D		B E T A	
INTERVAL		ACCEP	BEST	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE
FROM	TO	RULE	TRUNC	PCINT	PCINT	ALFA	ALFA	BETA	BETA
207	228	1	M	216	216	0.0932	0.0932	0.0998	0.0998

SAMPLE NUMBER		F C L D		A L F A		F C L D		B E T A	
INTERVAL		ACPT	BEST	TRUE	TRUE	ACPT	BEST	TRUE	TRUE
FROM	TO	RULE	TRUNC	ALFA	BETA	RULE	TRUNC	ALFA	BETA
184	206	1	187	0.0999	0.103	1	193	0.104	0.100
161	183	2	183	0.0966	0.106	1	169	0.118	0.100
138	160	2	154	0.1000	0.117	1	146	0.140	0.100
115	137	2	123	0.0980	0.148	1	123	0.173	0.100
93	114	2	95	0.097	0.200	1	100	0.220	0.100
70	92	3	92	0.090	0.220	1	78	0.294	0.098
47	69	3	69	0.098	0.278	1	55	0.396	0.098

PO=0.0250	ALFA=C.100	FI= 1.799	S=0.047546
PI=0.0800	BETA=C.100	H2= 1.799	ASD= 71

NATURAL TRUNCATION PCINT= 165	TRUE ALFA= C.0966
	TRUE BETA= C.0994

SAMPLE NUMBER		F C L D		A L F A		A N D		B E T A	
INTERVAL		ACCEP	BEST	TRUE	TRUE	TRUE	TRUE	TRUE	TRUE
FROM	TO	RULE	TRUNC	PCINT	PCINT	ALFA	ALFA	BETA	BETA
144	164	1	M	162	162	0.0952	0.0952	0.0999	0.0999

SAMPLE NUMBER		F C L D		A L F A		F C L D		B E T A	
INTERVAL		ACPT	BEST	TRUE	TRUE	ACPT	BEST	TRUE	TRUE
FROM	TO	RULE	TRUNC	ALFA	BETA	RULE	TRUNC	ALFA	BETA
122	143	1	127	0.0999	0.107	1	137	0.109	0.100
101	121	2	121	0.092	0.115	1	114	0.132	0.100
80	100	2	96	0.099	0.134	1	92	0.171	0.099
59	79	2	69	0.100	0.193	1	70	0.232	0.099
38	58	2	44	0.099	0.305	1	49	0.336	0.099

PC=0.0250	ALFA=C.100	H1= 1.628	S=0.051109
PI=0.0900	BETA=C.100	H2= 1.628	ASN= 54

NATURAL TRUNCATION POINT= 130	TRUE ALFA= C.0910
	TRUE BETA= C.0990

SAMPLE NUMBER		F C L D		A L F A		A N D		B E T A	
INTERVAL		ACCEPTANCE		BEST TRUNC		TRUE		TRUE	
FROM	TO	RULE	M	PCINT	ALFA	BETA	ALFA	BETA	
111	129	1		127	C.0894			0.0997	

SAMPLE NUMBER		F C L D		A L F A		F O L D		B E T A	
INTERVAL		ACPT	BEST	TRUE	TRUE	ACPT	BEST	TRUE	TRUE
FROM	TO	RULE	TRUNC	ALFA	BETA	RULE	TRUNC	ALFA	BETA
		M	PCINT			M	POINT		
91	110	1	99	0.099	C.105	1	105	0.106	0.100
71	90	2	90	0.086	0.120	1	84	0.135	C.100
52	70	2	69	0.099	0.142	1	64	0.190	C.093
32	51	2	43	0.096	C.244	1	44	0.286	C.299

PC=0.0250	ALFA=C.100	H1= 1.498	S=0.054587
PI=0.1000	BETA=C.100	H2= 1.498	ASN= 43

NATURAL TRUNCATION POINT= 101	TRUE ALFA= C.0930
	TRUE BETA= C.0968

SAMPLE NUMBER		F C L C		A L F A		A N D		B E T A	
INTERVAL		ACCEPTANCE		BEST TRUNC		TRUE		TRUE	
FROM	TO	RULE	M	PCINT	ALFA	BETA	ALFA	BETA	
83	100	1		95	0.0883			0.0995	

SAMPLE NUMBER		F C L C		A L F A		F O L D		B E T A	
INTERVAL		ACPT	BEST	TRUE	TRUE	ACPT	BEST	TRUE	TRUE
FROM	TO	RULE	TRUNC	ALFA	BETA	RULE	TRUNC	ALFA	BETA
		M	PCINT			M	POINT		
65	82	1	70	C.100	0.111	1	77	C.112	C.099
46	64	2	64	0.087	C.121	1	58	0.156	C.100
28	45	2	43	0.097	C.187	1	40	C.247	C.093

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120

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DIFF = H2 - N + 1.0
IF (DIFF.GT.ZERO) N = N+1
CC 260 I = 1,200
NREJCT(1) = N
X = (N - 1.000 - H2)/S
MREJCT(1) = X + 1.0
MR = MREJCT(1)
IF (MR.GT.LIMIT) GC TO 295
N = N+1
260 CONTINUE
295 IC = 0
IX = 0
IA = MREJCT(1)
IE = MACCPT(1)
IF (IA.GT.IE) GC TO 314
C
C FROM ZERO TO H2
C
300 IC = IC + 1
NSTCP = MREJCT(1) - 1
MNEW = MREJCT(1) - 1
CC 310 I = 1,NSTCP
MNEW = I - 1
PRCB(I,1) = EINCMI(MNEW,MNEW,P,Q)
310 CONTINUE
GC TO 320
C
C FROM ZERO TO AC
C
314 IX = IX + 1
NSTCP = MREJCT(1) - 1
MNEW = MACCPT(1)
CC 318 I = 2,NSTCP
MNEW = I - 1
PRCB(I,1) = EINCMI(MNEW,MNEW,P,Q)
PMATRX(1F,IX,MNEW)=PRCB(1,1)
318 CONTINUE
PACCPT = BINCM(MNEW,C,P,Q)
PMATRX(1F,IX,15)=PACCPT
GC TO 375
C
C FROM R TO R
C
320 MLCMP = MACCPT(1)
IC = IC + 1
M = MREJCT(IC)
IF (M.GT.MLCMP) GC TO 350
NSTART = 0
NSTCP = MREJCT(IC) - 2
MIN = 0
MAX = 0
MARK = 1
MOLD = MNEW
MNEW = MREJCT(IC) - 1
CALL GC (NSTART,NSTCP,MIN,MAX,MARK,MNEW,MOLD)
GC TO 320
C
C FROM R TO A
C
350 IC = IC - 1
351 IX = IX + 1
NSTART=IX
NSTCP = MREJCT(IC) - 1
MIN=IX-1
MAX = NSTART
MARK = 1
INACC=1
MOLD = MNEW
MNEW = PACCPT(IX)
CALL GC (NSTART,NSTCP,MIN,MAX,MARK,MNEW,MOLD)
ACCPT = PRCE(MIN,NEW) * BINCM(MNEW-MOLD,C,P,Q)
PACCPT = PACCPT + ACCPT
PMATRX(1F,IX,15)=PACCPT

```

```

IF (PACCP1.L1.PSTOP) GO TO 356
NATURL=MACCF1(IX)
GO TO 10
350 IF (MACCF1(IX).EQ.NATURL) GO TO 400
INACC=0
C
C FROM A TO R
C
375 ID = ID + 1
NSTART=IX
NSTOP = NREJCT(ID) - 2
MIN = NSTART
MAX = NSTART
MARK = (-1)
MNEW = MNEW
MNEW = NREJCT(ID) - 1
CALL GC (NSTART,NSTOP,MIN,MAX,MARK,MNEW,MOLD)
GO TO 351
C
C NATURAL TRUNCATION POINT
C
400 WRITE(6,405)
405 FORMAT(' ',15X,'-----')
1 PIRCEA=1.000-PMATRIX(1,IX,15)
WRITE(6,406) NATURL, PIRCEA
406 FORMAT(' ',14X,'NATURAL TRUNCATION POINT=',15,5X,'TRUE ALFA=',F7.
14,3X,' ')
1 PIRCEB=PMATRIX(2,IX,15)
WRITE(6,407) PIRCEB
407 FORMAT(' ',14X,' ',39X,'TRUE BETA=',F7.4,3X,' ')
408 WRITE(6,408)
408 FORMAT(' ',15X,'-----')
1
410 IX=IX-1
IIII=0
TRLEAA=1.0
TRLEAB=1.0
IWATCH=C
IF (IX.EQ.C) GO TO 650
GO TO 570
418 WRITE(6,408)
WRITE(6,405)
WRITE(6,420)
420 FORMAT(' ',14X,' |SAMPLE NUMBER| HOLD ALPHA | HOLD C
1B E T A | ')
422 WRITE(6,422)
422 FORMAT(' ',14X,' | INTERVAL |ACPT|BEST | |ACPT|BEST |
1 | ')
424 WRITE(6,424)
424 FORMAT(' ',14X,' |RLE|TRUNC| TRUE| TRUE|RULE|TRUNC|
1TRLE|TRLE| ')
426 WRITE(6,426)
426 FORMAT(' ',14X,' | FROM | TO | M |POINT| ALFA| BETA| M |POINT|
1ALFA| BETA| ')
WRITE(6,408)
GO TO 558
C
C HOLD ALPHA
C
500 IX=IX-1
IIII=IIII+1
IF (IX.EQ.C) GO TO 650
TCIALP=PMATRIX(1,IX,15)
GO TO 1=1,14
MALFA=1
TCIALP=TCIALP+PMATRIX(1,IX,1)
IF (TCIALP.EQ.PSTOP) GO TO 520
510 CONTINUE
520 IF (MALFA.GT.1) GO TO 550
INCREM=(ELC(10(PSTOP-PMATRIX(1,IX,15))-DLOG10(PMATRIX(1,IX,1)))/DLOG
110(1.000-PLNE)
NCPTS=MACCF1(IX)+INCREM

```

123

```

650  GO TO 500
    WRITE(6,408)
    READ(5,255) ISKIP
655  FORMAT(11)
    IF(ISKIP.EQ.1) WRITE(6,660)
660  FORMAT('1')
    GO TO 10
C
C    HOLD ALFA AND BETA
C
700  IF(IWATCH.EQ.1) GO TO 710
    WRITE(6,405)
    WRITE(6,572)
    WRITE(6,573)
    WRITE(6,574)
    WRITE(6,408)
572  FORMAT(' ',14X,'|SAMPLE NUMEER|      H O L D      A L F A      A N D
10  B E T A      |')
573  FORMAT(' ',14X,'|   INTERVAL |ACCEPTANCE|BEST TRUNC|      TRUE   |
1  TRUE      |')
574  FORMAT(' ',14X,'| FROM |   TO |   RULE M |   PCINT |      ALFA   |
1  BETA      |')
710  WATCH=1
    IRIGHT=MACCPT(IX+1)-1
    IF(1FCLLA.NE.1FCLER) GO TO 720
    IF(NCPTSS.GE.NCPTS) WRITE(6,740) MACCPT(IX), IRIGHT, MALFA , NCPTS
1, TRUEAA, TRUEAB
    IF(NCPTSS.LT.NCPTS) WRITE(6,740) MACCPT(IX), IRIGHT, MBETA, NCPTSS
1, TRUEBA, TRUEBB
740  FORMAT(' ',14X,'|',15,1X,'|',15,1X,'|',16,4X,'|',18,2X,'|',F9.4,2X
1,'|',F9.4,2X,'|')
    GO TO 500
720  IF(1FCLLA.EQ.C) GO TO 730
    WRITE(6,740) MACCPT(IX), IRIGHT, MALFA, NCPTS, TRUEAA, TRUEAB
    GO TO 500
730  WRITE(6,740) MACCPT(IX), IRIGHT, MEETA, NCPTSS, TRUEBA, TRUEBB
    GO TO 500
END

```

GC

DATE = 80283

17/04/15

```
SUBROUTINE GC (NSTART,NSTCP,MIN,MAX,MARK,MNEW,NCLD)
IMPLICIT REAL*8 (A-H,C-Z)
EXTERNAL BINOMI
COMMON/A/PRCB(200,2),F,C,LAST,NEW,MAGIC,IP,INDACC /3/PMATRIX(2,200,
15),IX
NSTART = NSTART + 1
NSTCP = NSTCP + 1
MIN = MIN + 1
MAX = MAX + 1
MDIFF = MNEW - NCLD
CC 820 NNEW = NSTART,NSTCP
SUM = C.CDC
IF(MARK.EC.1.AND.MAX.EC.NSTCP) MAX = MAX - 1
CC 810 NCLD = MIN,MAX
SUM = SUM + PRCB(NCLD,LAST) * BINOMI(MDIFF,NNEW-NCLD,F,C)
810 CONTINUE
PRCB(NNEW,NEW) = SUM
MAX = MAX + 1
820 CONTINUE
IF(INDACC.NE.1) GO TO 850
IFCINT=0
CC 830 NNEW=NSTART,NSTCP
IFCINT=IFCINT+1
PMATRIX(IP,IX,IFCINT)=PRCB(NNEW,NEW)
830 CONTINUE
NEW=NEW-MAGIC
850 LAST = LAST + MAGIC
MAGIC = MAGIC * (-1)
RETURN
END
```

SINCM1

DATE = 8023

17/04/19

```

900 DOUBLE PRECISION FUNCTION SINCM1 (N,K,P,C)
      IMPLICIT REAL*8 (A-H,O-Z)
      RATIO = P/L
      IF(N.LT.K) GO TO 920
      BINCM1 = C ** A
      IF(K.LE.C) GO TO 930
      DO 910 L = 1,K
      BINCM1 = BINCM1 * RATIO * (N-L+1) / L
910 CONTINUE
      GO TO 930
920 BINCM1 = C.CC
930 RETURN
      END

```

TRUE

DATE = 8023

17/04/19

```

      DOUBLE PRECISION FUNCTION TRUE(IP,INCLUDE,P,INCRM)
      IMPLICIT REAL*8 (A-H,O-Z)
      COMMON/D/FMATEX(2,200,15),IX
      TRUE=FMATEX(1F,IX,15)
      DO 560 I=1,INCLUDE
      ALL=C.O
      DO 950 J=1,I
      ALL=ALL+FMATEX(IP,IX,J)*BINCM1(INCRM,I-J,P,1.O/C-P)
950 CONTINUE
      TRUE=TRUE+ALL
960 CONTINUE
      RETURN
      END

```

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