The upper end point of the confidence interval is the root in λ of the equation

$$\frac{N-p}{r}\frac{Q(\lambda)}{Q_a} = F_1 \tag{2.19}$$

and the lower end point is the root in λ of the equation

$$\frac{N-p}{r}\frac{Q(\lambda)}{Q_a} = F_2. \tag{2.20}$$

If equation (2.20) has no root, the lower end point of the confidence interval is put equal to zero.

REFERENCE

[1] A. Wald, "On the analysis of variance in case of multiple classifications with unequal class frequencies", *Annals. of Math. Stat.*, Vol. 12 (1941).

ON THE SHAPE OF THE ANGULAR CASE OF CAUCHY'S DISTRIBUTION CURVES

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1. Let ξ be a *linear* random variable, that is, a random variable capable of values x represented by points of a line $-\infty < x < \infty$, and suppose, for simplicity, that ξ has a density of probability, $f(x)$. Then, subject to provisos of convergence, the series

$$F(x) = \sum_{n=-\infty}^{\infty} f(x + n)$$

represents a periodic function, of period 1, having the following significance: $F(x)$ is the density of probability of the *angular* random variable, say Ξ, which is obtained if all the states

$$\cdots, \quad \xi - 2, \quad \xi - 1, \quad \xi, \quad \xi + 1, \quad \xi + 2, \cdots$$

of the linear random variable are identified.

In other words, if a circle of unit circumference rolls from $-\infty$ to ∞ on the ξ-line, then every point of the circumference collects the various densities of probability attached to congruent points of the ξ-line, and a state of Ξ represents a point of the circumference. For a detailed study of the mapping $\xi \rightarrow \Xi$ or $f \rightarrow F$, cf. [2].

According to Poisson's summation formula, the Fourier constants of the periodic function $F(x)$ can be obtained by restricting u in $g(u)$ to an equidistant sequence of discrete values, where $g(u)$ denotes the Fourier transform of $f(x)$; cf., e.g., [5], p. 78 or [9], pp. 477–478.