$$\bar{v} = \sigma^2\left[n - m + \frac{1}{\sigma^2}\left(\frac{u_1^2}{b_{11}} + \cdots + \frac{u_m^2}{b_{mm}}\right)\right].$$

Again we observe that the expected value of v is $(n-m)\sigma^2$ when each of the m linear forms is equated to zero. However, if s of the m linear forms are equated to their respective standard derivations while the remaining $m-s$ are equated to zero, then $\bar{v}=(n-m+s)\sigma^2$. Finally we see that the expected value of v, for a fixed set of u's, is not in general an integral multiple of σ^2.

THE UNIVERSITY OF IOWA

ON THE PRESERVATION OF ANGLES AT A BOUNDARY POINT IN CONFORMAL MAPPING†

BY S. E. WARSCHAWSKI

The object of this note is to prove the following theorem.

THEOREM. *Let R be a simply connected "schlicht" region in the w-plane whose boundary contains the point $w=0$. Let $w=0$ be "accessible" along the Jordan curve L. Suppose that there is a circle $|w|<\rho$ such that the part of the boundary of R which is inside this circle lies within the angles*

$$(1)\qquad |\arg w - h_+| \leqq k_+, \qquad |\arg w - h_-| \leqq k_-, \qquad (h_- \leqq h_+).$$

Suppose, furthermore, that L connects $w=0$ with a boundary point outside $|w|=\rho$ such that L divides R into two sub-regions. Let all boundary points of one sub-region which are in $|w|<\rho$, and not on L, be in one of the angles (1), *and those of the other sub-region which are in $|w|<\rho$, and not on L, be in the other.*

Let $w=w(z)$ map $|z-1|<1$ conformally on R in such a manner that its inverse function approaches 0 *as $w\to 0$ along L. Let*

$$(2)\qquad \begin{aligned} H(\alpha) &= \frac{1}{\pi}\left[\left(\frac{\pi}{2}+\alpha\right)h_+ + \left(\frac{\pi}{2}-\alpha\right)h_-\right],\\ K(\alpha) &= \frac{1}{\pi}\left[\left(\frac{\pi}{2}+\alpha\right)k_+ + \left(\frac{\pi}{2}-\alpha\right)k_-\right].\end{aligned}$$

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