indicated in the cases considered herein, is that a single term in the Galerkin procedure yields almost the complete solution, whereas the solutions obtained by the classical methods, when the latter can be applied, converge much more slowly, thus requiring a number of terms before a significant part of the solution is obtained.

With regard to the domain containing holes, any number or shape of holes may be included provided each shape is expressible in terms of a single analytical curve, $f(x, y) = 0$, which does not generate zero values elsewhere in the domain. For example, for a rectangular hole bounded by the lines $x = a$, $x = b$, $y = c$, $y = d$, the function $(x - a)(x - b)(y - c)(y - d) = 0$ certainly defines the hole, but unfortunately it generates zero values away from the hole, so that this function may not be used as part of the solution.** Obviously the external boundary of the domain, whether or not the domain is multiply connected, must not be re-entrant for the same reason.

** An approximation not having this deficiency is

$$\left[x - \frac{[(b + a)/2]}{(b - a)/2}\right]^{2n} + \left[y - \frac{[(d + c)/2]}{(d - c)/2}\right]^{2n} - 1 = 0$$

which, if n is sufficiently large, resembles a rectangle with rounded corners.

In the case of the cylindrical shell, the solution presented in (67) gives good results as to both behavior in time and variation in thickness. To improve the accuracy merely requires additional terms in the assumed form of solution (61). Finally, the inclusion of terms to account for angular or axial temperature variation, or both, as given by (35) and (52) presents no difficulty. It is clear that in this case $\bar{C}_0^{(1)}$ would include m or n terms. The solution corresponding to (67) would be, therefore, an infinite series over m or n, the general coefficient of which is easily determined.

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