LETTERS TO THE EDITOR

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AUTHORS' REPLY

We are surprised that Dr Ioakimidis chose our paper as a vehicle to criticize the methods developed by Erdogan and Gupta [1] and Krenk [2], as compared to those propounded by himself and Professor Theocaris. As merely users of these methods we do not feel qualified to defend either one, but we are obliged to correct the misleading impression created by Dr Ioakimidis' discussion for the benefit of the casual reader. The equation numbers in the sequel refer to Dr Ioakimidis' discussion.

There are two issues involved. The first is the singular Cauchy integral in equation (2). We did not evaluate this integral by the simple Gauss-Jacobi quadrature as Dr Ioakimidis would have us do, but by the quadrature developed by Krenk [2]. Krenk's quadrature replaces *both* terms in equation (2) by a single summation so that only $g(s_i)$ appears in the discretized form. In the quadrature used by Dr Ioakimidis both $g(s_i)$ and g(u) remain in the discretized form of equation (2) ($u \neq s_i$). Obviously this quadrature rule cannot be used without modification for direct integration of singular Cauchy integral equations of the second kind, since it doubles the number of unknowns. Thus his approach could not be applied in our other papers, such as his reference [3], for example, as Dr Ioakimidis claims, since g(u) is an unknown function. Therefore the claim of general validity by Dr Ioakimidis is not accurate.

The second issue is that Dr Ioakimidis has also misunderstood the evaluation of the integral in equation (3). Our summation here also replaces two terms. One of these terms is proportional to g(u) which vanishes for |u| > 1, and thus this term drops out. Thus in his equation (26) the second term is not present either, and all the claims about infinite errors, etc., are void.

It is also clear then that Dr Ioakimidis has misunderstood Krenk's quadrature and cannot, therefore make general statements about the accuracy of either method. We would like to refer Dr Ioakimidis to Krenk's paper [2] and suggest that he compares the two methods by some actual computations in this or another problem.

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