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Yajni M. Warnapala*, Roger Williams University, Dept. Of Mathematics, One Old Ferry Road, Bristol, RI 02809, and **Elizabeth Morgan**, Roger Williams University, Dept. Of Mathematics, One Old Ferry Road, Bristol, RI 02809. *The Numerical Solution of the Exterior Dirichlet Problem for Helmholtz Equation-for Oval of Cassini*. Preliminary report.

To overcome the non-uniqueness problem arising in integral equations for the exterior boundary value problems for the Helmholtz Equation, Jones suggested adding a series of outgoing waves to the free space fundamental solution. In this paper we use the Jones modified integral equation approach to find numerical results for the exterior Dirichlet problem for the Oval of Cassini. This method has already given good results for the sphere, ellipsoid and the perturbation of the sphere. (Received September 12, 2007)