Conformal mapping of unbounded multiply connected regions onto canonical slit regions

Abstract

We present a boundary integral equation method for conformal mapping of unbounded multiply connected regions onto five types of canonical slit regions. For each canonical region, three linear boundary integral equations are constructed from a boundary relationship satisfied by an analytic function on an unboundedmultiply connected region. The integral equations are uniquely solvable. The kernels involved in these integral equations are the modified Neumann kernels and the adjoint generalized Neumann kernels.