# An Efficient and Novel Numerical Method for Quasiconformal Mappings of Doubly Connected Domains

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A numerical method for quasiconformal mapping of doubly connected domains onto annuli is presented. The ratio $R$ of the radii of the annulus is not known a priori and is determined as part of the solution procedure. The numerical method presented in this paper requires solving iteratively a sequence of inhomogeneous Beltrami equations, each for a different $R$. $R$ is updated using a procedure based on the bisection method. The new method is an extension of Daripa's method for the quasiconformal mapping of the exterior of simply connected domains onto the interior of unit disk [15]. It uses fast and accurate algorithms for evaluating certain singular integrals and is, thus, very efficient and accurate. Its performance is demonstrated for several doubly connected domains.

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