

The approximate conformal mapping onto simply and doubly connected domains

Abzalilov D., Shirokova E.

Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

© 2016 Informa UK Limited, trading as Taylor & Francis Group A new method of approximate conformal mapping of the unit disk onto a simply connected domain and of an annulus onto a doubly connected domain with smooth boundaries is presented. The method is based on integral equations solution which is reduced to a linear system solution and does not require iterations. The mapping function has the form of a Taylor or a Laurent polynomial defined on the unit disk or on the annulus, respectively. The method is easily computable.

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Keywords

Conformal mapping, doubly connected domain, Fredholm integral equation, simply connected domain