

# 含三角函数的一般形式复杂对偶积分方程组的理论解

王文友, 谢中才, 董金林

徐州师范大学工学院, 徐州221011

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**摘要** 本文基于Gopson法,进行研究,改进,推广,应用于一般形式,复杂的对偶积分方程组的求解,首先引入函数进行方程组变换,其次引入未知函数的积分变换实现退耦。应用Abel反演变换,使方程组正则化为Fredholm第二类积分方程组,并由此给出对偶积分方程组的一般性解,本文给出的解法和理论解,可供求解复杂的数学、物理、力学中的混合边值问题参考,选用。同时也提供求解复杂的对偶积分方程组另一种有效的解法。

**关键词** [对偶积分方程组](#), [Abel反演变换](#), [第二类Fredholm 积分方程组](#)

分类号

## THEORETICAL SOLUTIONS OF COMPLEX DUAL INTEGRAL EQUATIONS ON THE MORE GENERAL FORM WITH TRIGONOMETRIC FUNCTION

Wen You WANG,Zhong Cai XIE,Jin Lin DONG

Polytechnic College, Xuzhou Normal University, Xuzhou 221011,P.R.China

**Abstract** The present paper based on solving method of Copson investigated, made an improvement and generalization, is used solving complex dual integral equations of more general form. Firstly via introduced function are transformed equations, and then by introduced integral transformation of unknown function it is decoupled.Using Able anti-transformation,the equations are further reduced to regularized Fredholm integral equations of the second kind Thus are given general solutions of dual integral equations.The given theoretical solutions and solving method in this paper provides Chice and reference on problems of the solving mixed boundary valre of complex mathematics,physics,mechanics.At the time the anthor useful method of solving complex sual integral equations is furnished.

**Key words** [Dual integral equations](#) [Abel anti-transformation](#) [Predholm integral equations of the second kind](#)

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