

# **Analytical solutions of characteristic singular integral equations in the class of rational functions**

## **Abstract**

We construct four kinds of solution of Cauchy type characteristic singular integral equations using four kinds of basis, when the known function is rational. We consider the denominator of this rational function has only simple roots. It is found that for this kinds of rational function, the solutions are irrational.

**Keyword:** Cauchy type characteristic singular integral equation; Rational functions; Basis function