Elnur H. KHALILOV

ON APPROXIMATE SOLUTION OF ONE CLASS OF TWO-DIMENSIONAL SINGULAR INTEGRAL EQUATIONS

Abstract

In the paper the basis of collocation method is given for singular integral equation of the form

$$\rho\left(x\right) + \int\limits_{S} \frac{q\left(x,y\right)}{\left|x-y\right|^{2}} \rho\left(y\right) d\sigma_{y} = f\left(x\right),$$

where S is a closed smooth surface in R^{3}, $q \in C\left(S \times S\right)$ and $q\left(x,x\right) = 0$ for

$x \in S$, $f \in C\left(S\right)$ and ρ is an unknown function from $C\left(S\right)$.