

This thesis deals with numerical solution of an integral equation of the second kind with special singular kernel function related to induction heating. The numerical solution is based on collocation and Nyström methods. The idea of collocation methods is to choose a finite-dimensional space of candidate solutions (usually polynomials up to a certain degree). The Nyström methods are based on approximation of the integral in equation by numerical integration rule. This thesis describes and gives error estimates of both methods. Error estimates are compared to the exact solutions in simple cases.