Abstract

We consider a class of singular integro-differential equations with initial conditions. For this specific type of integro-differential equations, it can be transformed into first order hyperbolic partial differential equations. By applying nonconforming finite element methods on space and keeping time as a variable, we establish a semi-discretized scheme and then use an ordinary differential equation solver for this semi-discretized scheme. We report the numerical solutions of a class of singular integro-differential equations with trivial and nontrivial conditions.