

A STUDY ON NAVIER STOKES EQUATIONS WITH NAVIER-SLIP BOUNDARY CONDITIONS

Abstract: First we will give a short overview on Navier-Stokes equations and different boundary conditions. Next we will discuss about the existence and uniqueness of solutions to the Navier-Stokes and damped Navier-Stokes equations subject to Navier-slip boundary conditions in \mathbb{R}^3 . Later, we employ the Rothe method to prove the existence of weak solutions of the damped Navier-Stokes equations subject to Navier-slip boundary condition with nonlinear source term in a bounded domain. We also studied the solutions of the damped Navier-Stokes in n -spacial dimension. Finally, we will discuss about the future plan.