

In the presented work we study the effect of dynamic boundary conditions on Couette and Poiseuille flows that represent two types of flow between two parallel impervious plates. In the first part, the Navier-Stokes equations are considered describing flows of an incompressible Newtonian fluid, and dynamic boundary conditions in general three-dimensional setting. Then we look at how our problem reduces in the simplified geometrical setting. In the second part, we study several selected problems, some of them are supported by numerical simulations.