

# On the Navier-Stokes equations

ABDELOUAHED EL MANJLI

Fès University

Faculty of Sciences

P. O. Box 1796

300 Fès, Morocco

e-mail: elmanjli@yahoo.com

In this paper we analyse a finite elements approximation of the time-dependent Navier-Stokes equation.

Several approximations are used to approximate velocity and pressure, based on the use of equal velocity-pressure interpolation.

The stability and convergence are studied, both in norm associated to the problem and in the  $L_p$ -norm for both velocity and pressure.