

PIEZOVISCOUS INCOMPRESSIBLE FLUIDS AND LUBRICATION PROBLEMS

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Abstract

In certain situations, such as in some hydrodynamic lubrication problems in engineering, an incompressible fluid is considered with a viscosity depending on pressure. This leads to a number of interesting issues in the whole range from engineering and modelling to numerical simulations and analysis. Some of the recent results and open problems will be mentioned before the talk will focus on the numerical simulations of the (planar, steady, and simplified) lubrication flow.