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On the existence of solutions of a thin domain problem

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Abstract

In this talk, the existence of solutions of a thin domain problem given by

$$\begin{aligned}\frac{\partial U}{\partial t} + (U \cdot \nabla)U - \nu \Delta U + \nabla P &= \xi \Theta + F_1(t), & \Omega_g \times [0, T] \\ \nabla \cdot U &= 0, & \Omega_g \times [0, T] \\ \frac{\partial \Theta}{\partial t} + (U \cdot \nabla)\Theta - \kappa \Delta \Theta &= F_2(t), & \Omega_g \times [0, T]\end{aligned}$$

is proved by Feado - Galerkin method.

Key Words: Thin Domain, Boussinesq equations, Weak Solutions, Feado - Galerkin method

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