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Spatial Asymptotic Behaviour for the Boussinesq Flow in Half Space

The Boussinesq equations describe the heat convection in a viscous incompressible fluid under the influence of gravity. We show that the velocity $u(x, t)$ of the Boussinesq flow in the half space \mathbb{R}_+^n in general does not decay faster than $|x|^{-n}$. Furthermore, we work out the essential terms of the spatial asymptotic profile.