

Vorticity Leray- α model for Navier-Stokes equations with viscosity depending on the distance to the wall.

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SUMMARY

We introduce a vorticity Leray- α model with eddy viscosity depending on $d(x, \partial\Omega)^\eta$, where $\partial\Omega$ is the boundary of the domain and $\eta \in]0; 1[$. We prove that this system admits fairly regular weak solutions converging when α goes to 0 to the solution of a reference system.

The full article is [1].

Keywords: Fluid mechanics, Navier-Stokes equations, Leray- α models, Vorticity.

AMS Classification: 35Q30, 76D03, 76D05, 35A35, 35B33.

References

- [1] G. LELOUP. Vorticity Leray- α model for Navier-Stokes equations with viscosity depending on the distance to the wall. . *Zeitschrift für angewandte Mathematik und Physik* **volume 75**(3), p. 105, 2024, Springer.

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