

Stability results for nematic liquid crystals

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SUMMARY

In 1994, Ponce et al. analyzed ([3]) the stability of mildly decaying global strong solutions for the Navier-Stokes equations. In this work, we try to apply the same approach for a nematic liquid crystal model, that is a coupled model including a Navier-Stokes type-system for the velocity of the liquid crystal (“liquid part”) and a parabolic system for the orientation vector field for the molecules of the liquid crystal (“solid part”). We will focus on the similarities and differences with respect to [3], depending on the boundary data chosen for the solid part.

Keywords: Stability of solutions, nonlinear coupled system, liquid crystal system

AMS Classification: 35B35, 76A15, 76D03

References

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