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The pointwise estimates of solutions for the 3D incompressible viscoelastic fluids. (Chinese. English summary) [Zbl 07494983]

Summary: In this paper, we consider the Cauchy problem of the incompressible viscoelastic hydrodynamic model in dimension three. Firstly, we introduce the appropriate variable transformation, and study the Green’s function of the linearized system for the transformed equations. Then, according to the pointwise estimation method of Green’s function, combining the expressions of the solutions, we analyze the influence of Riesz operator and obtain the pointwise time-space estimates of the solutions.

MSC:
76A10 Viscoelastic fluids
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35B40 Asymptotic behavior of solutions to PDEs

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