

Steady states of the Fokker-Planck models of the liquid crystals

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School of Physical and Mathematical Sciences

Here, we will investigate the steady states of the Fokker-Planck model of liquid crystals. Generally, the full model will first be presented. Then focusing on the micro model, we will show the isotropic and nematic phases besides the phase transition phenomena. Moreover, there are multiple stable steady states with time dependence for the weak shear flow. Lastly, we will give some open problems.

Speaker Biography

Dr. Hui Zhang received his PhD in 2001 from the Academy of Mathematics and Systems Sciences, Chinese Academy of Sciences. He was a postdoc in Peking University from 2001-2003, and a Research Fellow of Alexander von Humboldt Foundation at Max-Planck Institute of Mathematical Science from 2007-2008. He is currently an Associate Professor in Beijing Normal University since 2005. His research interests are mainly in mathematical modeling of liquid crystal and fluid dynamics, and scientific computing.

Host: Mathematical Imaging and Vision Research Group, Division of Mathematical Sciences, School of Physical and Mathematical Sciences

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