

SEMINÁRIO

ANÁLISE E EQUAÇÕES DIFERENCIAIS

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Small data global regularity for Ericksen-Leslie's hyperbolic liquid crystal model in dimensions three

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Abstract:

In the original Ericksen-Leslie's model for liquid crystals, the balance laws include second order material derivatives. The system is a nonlinear coupling of Navier-Stokes equations with wave map to S^2 . In this talk, I will introduce the small data global regularity in both incompressible and compressible cases. The main strategy relies on the interplay between the control of high order energies and decay estimates, which is inspired by the method of space-time resonance. This talk is based on the joint works with Jiayi Huang, Ning Jiang and Yi-Long Luo.

CMAFCIO