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Mimi Dai* (mdai@slugmail.ucsc.edu), 828 Koshland Way, Santa Cruz, CA 95064, and **Jie Qing** and **Maria Schonbek**. *Asymptotic Behavior of Solutions to the Liquid Crystals Systems in \mathbb{R}^3* .

On bounded domain, the asymptotic behavior of solutions to systems of nematic liquid crystals, with constant fluid density has been studied by several papers. In this paper we establish an asymptotic behavior result for nematic liquid crystals system with constant fluid density in the whole space \mathbb{R}^3 assuming that initial data is small. The main ingredient to derive decay is Fourier splitting method introduced by M. Schonbek. (Received September 21, 2011)