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Carlos Garcia-Cervera, Tiziana Giorgi and Sookyung Joo* (sjoo@odu.edu), Department of Mathematics and Statistics, Old Dominion University, Norfolk, VA 23529. *Dimensional reduction for the ferroelectric Smectic A-type phase of bent-core liquid crystals.*

We derive and numerically simulate an energy functional modelling the effects of an electric field on a thin sample of a bent-core liquid crystal in the ferromagnetic SmA-like phase. We start from a three-dimensional domain, and we show that under proper rescaling in the limit of small thickness the electric self-interactions gives rise to boundary terms. We compare our results to previously proposed models. (Received August 19, 2021)