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Tiziana Giorgi* (tgiorgi@nmsu.edu), **Carlos J. García-Cervera** and **Sookyung Joo**.

Analysis of a Landau-de Gennes model for the $B_{1RevTilted}$ phase of bent-core liquid crystals.

The $B_{1RevTilted}$ is a columnar phase of bent-core molecule liquid crystals, in which it is possible to reorient the spontaneous polarization by applying an electric field. The reorientation can be achieved by either a rotation around the smectic cone or the molecular axis, or a combination of both. In our work, we derive the closed form of the Γ -limit, in the large column regime, of a simple energy functional used in the physics literature to model experimental results of this switching mechanism. (Received July 17, 2016)