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Bogomol'nyi, Prasad, Sommerfield Configurations in Smectics CHRISTIAN SANTANGELO, University of Pennsylvania, RANDALL KAMIEN, University of Pennsylvania — It is typical in smectic liquid crystals to describe elastic deformations with a linear theory when the elastic strain is small. In smectics, certain essential nonlinearities arise from the requirement of rotational invariance. By employing the Bogomol'nyi, Prasad and Sommerfeld (BPS) decomposition and relying on boundary conditions and geometric invariants, we have found a large class of exact solutions.

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