1032-76-49 **Sookyung Joo*** (sjoo@math.ucsb.edu), Department of Mathematics, South Hall, Room 6607, Santa Barbara, CA 93117, and **Maria-Carme Calderer** (mcc@math.umn.edu), 127 Vincent Hall, 206 Church St. S.E., Minneapolis, MN 55455. *The continuum theory for smectic C* liquid crystals and its application to reorientation dynamics.*

We formulate the hydrodynamic theory of smectic C* liquid crystals and discuss its application. We follow the Ericksen-Leslie approach with the smectic C* Chen-Lubensky free energy. Based on the flow model that we derived from the nonlinear continuum model of smectic C* liquid crystals, we obtained dynamical properties of the model in homeotropic geometry, where the smectic layers are parallel to the boundary plates. We show analytically and numerically that this flow model actually helps the switching time compared to the model neglecting the flow effect. (Received August 01, 2007)