1023-82-1015   **Sarthok Sircar*** (`ssircar@math.fsu.edu`), Department of Mathematics, Florida State University, Tallahassee, FL 32306, and **Qi Wang** (`wang@math.fsu.edu`), Dept of Math, Florida State University, Tallahassee, FL 32306. *Phase of biaxial liquid crystal polymers and particle suspensions in simple flows.* Preliminary report.

We will discuss the motion of biaxial liquid crystal polymer solutions by developing a macro-micro hydrodynamical theory based on the Smoluchowski equation approach. We present some preliminary results on the phase behavior of the complex material system in simple flows such as shear and elongation. The reduced symmetry at the molecular level brings about significant changes at the macroscopic dynamics. (Received September 24, 2006)