1092-35-172   **Tao Huang*** (`txh35@psu.edu`) and **Changyou Wang**. *Regularity and uniqueness for a class of weak solutions to the hydrodynamic flow of nematic liquid crystals.*

We establish an ϵ-regularity criterion for any weak solution (u, d) to the nematic liquid crystal flow such that $(u, \nabla d) \in L_t^p L_x^q$ for some $p \geq 2$ and $q \geq n$ satisfying the condition $\frac{n}{q} + \frac{2}{p} = 1$. As consequences, we prove the interior smoothness and uniqueness of any such a solution when $p > 2$ and $q > n$. (Received August 08, 2013)