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We investigate the long-time behavior of weak solutions to the thin-film type equation

$$v_t = (xv - vv_{xxx})_x,$$

which arises in the Hele-Shaw problem. We estimate the rate of convergence of solutions to the Smyth-Hill equilibrium solution, which has the form $\frac{1}{24}(C^2 - x^2)_+^2$, in the norm

$$|f|_{m,1}^2 = \int_R (1 + |x|^{2m})|f(x)|^2 dx + \int_R |f_x(x)|^2 dx.$$

We obtain exponential convergence in the $|\cdot|_{m,1}$ norm for all m with $1 \leq m < 2$, thus obtaining rates of convergence in norms measuring both smoothness and localization. The localization is the main novelty, and in fact, we show that there is a close connection between the localization bounds and the smoothness bounds: Convergence of second moments implies convergence in the H^1 Sobolev norm. We then use methods of optimal mass transportation to obtain the convergence of the required moments. We also use such methods to construct an appropriate class of weak solutions for which all of the estimates on which our convergence analysis depends may be rigorously derived. Though our main results on convergence can be stated without reference to optimal mass transportation, essential use of this theory is made throughout our analysis. (Received September 02, 2010)