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Long time behavior of solutions to the 2D Keller-Segel equation with degenerate diffusion.

The Keller-Segel equation is a nonlocal PDE modeling the collective motion of cells attracted by a self-emitted chemical substance. When this equation is set up in 2D with a degenerate diffusion term, it is known that solutions exist globally in time, but their long-time behavior remains unclear. In a joint work with J.Carrillo, S.Hittmeir and B.Volzone, we prove that all stationary solutions must be radially symmetric up to a translation, and use this to show convergence towards the stationary solution as the time goes to infinity. (Received August 08, 2016)