Condensation phenomena in nonlinear drift equations

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Abstract. We study non-negative, measure-valued solutions to nonlinear drift-type equations modelling concentration phenomena related to Bose-Einstein particles. In one spatial dimension, we prove existence and uniqueness for measure solutions. Moreover, we prove that all solutions blow up in finite time leading to a concentration of mass only at the origin, and the concentrated mass absorbs increasingly the mass converging to the total mass as $t \to \infty$. Our analysis makes a substantial use of independent variable scalings and pseudo-inverse functions techniques.

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