



"Keller-Segel type approximation for nonlocal Fokker-Planck equations in one-dimensional bounded domain"

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To describe biological phenomena such as cell migration and cell adhesion many evolutionary equations are proposed in which an advective convolution term with a suitable integral kernel is imposed. It is well known that such nonlocal equations can reproduce various behaviors depending on the shape of the integral kernel. These nonlocal evolutionary equations are often difficult to analyze, and the analytical method is developing. In the light of these background we approximate the nonlocal Fokker-Planck equations by the combination of a Keller-Segel system which is a typical and locally dynamical system. We will show that the solution of the nonlocal Fokker-Planck equation with any even continuous integral kernel can be approximated as a singular limit of the Keller-Segel system with specified parameters.