

Asymptotic Behavior of Solutions to the Drift-Diffusion System with the Fractional Diffusion

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We consider an asymptotic profiles of the solution to the Cauchy problem for the generalized Nernst–Planck drift-diffusion equation, which is the coupled system of semilinear parabolic equations with the fractional diffusion.

We show a global existence and decay of a solutions. We also obtain an asymptotic expansion for time global solution to a resonance dissipations.