1171-35-130 **Anh Vo*** (ocbien_h2@yahoo.com), 3000 Holdrege street, Lincoln, NE 68503. *Convergence of nonlocal advection-diffusion equation to the classical counterpart.*

In this study, we investigate the convergence of solutions of nonlocal advection-diffusion PDE to the local counterparts in 1D. Nonlocal operators are integral operators that mimic differential operators but account for long-range interactions over a finite horizon. Nonlocality appears in many physical phenomena and has a wide range of applications. In the past, it was only shown that the solutions of the nonlocal Burgers equation converge to the local counterpart. In our research, we generalize the nonlocal advection operator. In the limit when the horizon parameter approaches zero, we prove nonlocal operators convergence pointwise to its local counterpart. Then, we apply the result to show the convergence of the solutions of the nonlocal advection-diffusion equation to the local counterpart. (Received August 09, 2021)