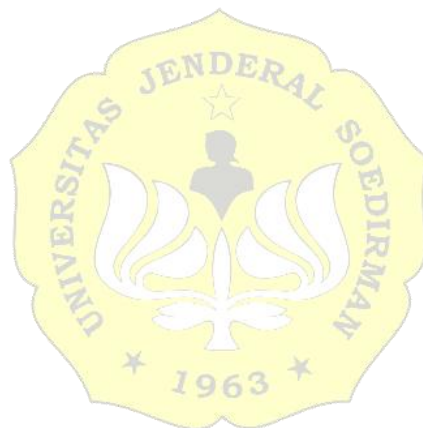


## ABSTRAK

Penelitian ini membahas tentang penurunan persamaan adveksi-dispersi konformabel dalam ruang multidimensi. Persamaan adveksi-dispersi menggambarkan proses difusi dengan pengaruh gaya eksternal, salah satu contohnya pergerakan angin. Penurunan persamaan adveksi-dispersi konformabel diperoleh dari proses gerak acak waktu kontinu (*continuous time random walk*) dengan menggunakan transformasi Laplace fraksional dan turunan fraksional konformabel. Sementara itu, penyelesaian persamaan tersebut diperoleh menggunakan transformasi Laplace fraksional dan transformasi Fourier multidimensi.

**Kata kunci:** adveksi-dispersi, gerak acak, ruang multidimensi, turunan fraksional konformabel, transformasi Laplace fraksional.



## ***ABSTRACT***

*This research discusses the derivation of a conformable advection-dispersion equation in multidimensional space. The advection-dispersion equation describes the diffusion process with the influence of external forces, for example is wind movement. The derivation of the conformable advection-dispersion equation is obtained from the continuous time random walk process using fractional Laplace transform and conformable fractional derivative. Meanwhile, the solution of the equation is obtained using fractional Laplace transform and multidimensional Fourier transform.*

**Keywords:** *advection-dispersion, random walk, multidimensional space, conformable fractional derivative, fractional Laplace transform.*

