



**APPLYING TRANSMUTATION METHOD TO SOLVE
EULER-POISSON-DARBOUX EQUATION ON $(0, \infty)$**

Iyaya Wanjala, Isaac Chepkwony, Sitawa Wattanga and Joy Mutegi

Received July 20, 2018

Abstract

Our object is to solve the singular Cauchy problem of Euler-Poisson-Darboux equation on $(0, \infty)$ by applying Fourier Cosine Transform and Hankel Transform methods. We shall apply Perseval's theorem to write the Fourier Cosine convolution which is a commutative and bilinear operator. We shall also invoke transmutation methods since the Euler-Poisson-Darboux equation has a Bessel Operator..

Keywords and phrases: Euler-Poisson-Darboux equation, transmutation, Hankel transform, Fourier cosine transform.

**Pioneer Journal
of Mathematics
and Mathematical
Sciences**



Pioneer Scientific
Publisher