



**ON SINGULAR CAUCHY PROBLEM OF EULER-POISSON  
DARBOUX EQUATION**

C. C. Wanjala Iyaya, W. A. Manyonge and Joseph Esekon

Received January 31, 2012

**Abstract**

We solve the singular Cauchy problem of Euler-Poisson-Darboux equation. The Riemann function, a solution corresponding to the adjoint equation is calculated and it enables us to evaluate any solution at a point by the Cauchy data on a non-characteristic curve. The Riemann function, written in terms of the Appell's hypergeometric function of two variables is arrived at, which is of interest and may be a good model for more general theory.

**Keywords and phrases:** Appell's hypergeometric function, Riemann function, singular Cauchy problem.

**Pioneer Journal  
of Mathematics  
and Mathematical  
Sciences**



**Pioneer Scientific  
Publisher**