International J. of Math. Sci. & Engg. Appls. (IJMSEA)
ISSN 0973-9424, Vol. 7 No. III (May, 2013), pp. 159-162

# A RESULT OF A LIÉNARD EQUATION

**A. M. MARIN[1], R. D. ORTIZ[2] AND C. F. BARON[3]**
[1,2.3] Faculty of Exact and Natural Sciences,
University of Cartagena, Sede Piedra de Bolivar,
Avenue of Consulado, Cartagena de Indias,
Bolivar, Colombia
E-mail: [1] amarinr@unicartagena.edu.co,
[2] rortizo@unicartagena.edu.co
[3] cbaronp@unicartagena.edu.co

**Abstract**

In this paper we find a general result of a dynamical system on the plane without periodic orbits. We use Dulac's criterion that gives sufficient conditions for the non–existence of periodic orbits of dynamical systems in simply connected regions of the plane. Using a Dulac function we can rule out periodic orbits.

---

Key Words : *Dulac functions, Quasilinear partial differential equations, Bendixon–Dulac criterion.*

AMS Subject Classification : 34A34, 34C25.